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      FILE 'CAPLUS, WPIDS, MEDLINE, PROMT, BIOSIS, DISSABS, DRUGB, DRUGU,
      JICST-EPLUS, MEDICONF, PHARMAML, PHIC, PHIN' ENTERED AT 14:44:44 ON 16
      JUL 2004
L1         12689 S (HEMODIALYSIS OR DIALYSIS) AND DIALYSATE#
L2          3377 S (ISOTONIC? OR SALINE OR BICARBONATE# OR BUFFER? OR SODIUM OR
L3            47 S (MOSM) AND L1
L4          3392 S L2 OR L3
L5            43 S L4 AND (IRON OR FERRI? OR FERRO?)
L6            35 DUP REM L5 (8 DUPLICATES REMOVED)

=> d que
L1         12689 SEA (HEMODIALYSIS OR DIALYSIS) AND DIALYSATE#
L2          3377 SEA (ISOTONIC? OR SALINE OR BICARBONATE# OR BUFFER? OR SODIUM
                 OR POTASSIUM OR ELECTROLYTE# OR MEQ) AND L1
L3            47 SEA (MOSM) AND L1
L4          3392 SEA L2 OR L3
L5            43 SEA L4 AND (IRON OR FERRI? OR FERRO?)
L6            35 DUP REM L5 (8 DUPLICATES REMOVED)
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L6 ANSWER 1 OF 35 PROMT COPYRIGHT 2004 Gale Group on STN

AN 2003:327477 PROMT
TI New Analysis Showed Regimen with EMEND Reduced Impact of Chemotherapy-Triggered Nausea and Vomiting on Patients' Lives, Regardless of Age or Gender.
SO Business Wire, (2 Jun 2003) pp. 5734.
PB Business Wire
DT Newsletter
LA English
WC 8067
FULL TEXT IS AVAILABLE IN THE ALL FORMAT
AB Business Editors/Health & Pharmaceutical Writers
THIS IS THE FULL TEXT: COPYRIGHT 2003 Business Wire
TX Inactive Ingredients: Sucrose, microcrystalline cellulose, hydroxypropyl cellulose and **sodium** lauryl sulfate. The capsule shell excipients are gelatin and titanium dioxide. The 125-mg capsule shell also contains red **ferric** oxide and yellow **ferric** oxide.

Aprepitant . . . for oral administration contains either 80 mg or 125 mg of aprepitant and the following inactive ingredients: sucrose, microcrystalline cellulose, hydroxypropyl cellulose and **sodium** lauryl sulfate. The capsule shell excipients are gelatin and titanium dioxide. The 125-mg capsule also contains red **ferric** oxide and yellow **ferric** oxide.

A . . . administered to patients with severe renal insufficiency (CrCl Less than 30 mL/min) and to patients with end stage renal disease (ESRD) requiring **hemodialysis**.

In patients with severe renal insufficiency, the AUC(0-)(Infinity) of total aprepitant (unbound and protein bound) decreased by 21% and C(max) decreased by 32%, relative to healthy subjects. In patients with ESRD undergoing **hemodialysis**, the AUC(0-)(Infinity) of total aprepitant decreased by 42% and C(max) decreased by 32%. Due to modest decreases in protein binding of aprepitant. . . with renal disease, the AUC of pharmacologically active unbound drug was not significantly affected in patients with renal insufficiency compared with healthy subjects. **Hemodialysis** conducted 4 or 48 hours after dosing had no significant effect on the pharmacokinetics of aprepitant; less than 0.2% of the dose was recovered in the **dialysate**.

No dosage adjustment for EMEND is necessary for patients with renal insufficiency or for patients with ESRD undergoing **hemodialysis**.

No . . . should be provided. Because of the antiemetic activity of aprepitant, drug-induced emesis may not be effective.

Aprepitant cannot be removed by **hemodialysis**.

Chronic . . . for the elderly.

No dosage adjustment is necessary for patients with renal insufficiency or for patients with end stage renal disease undergoing **hemodialysis**.

No dosage adjustment is necessary for patients with mild to moderate hepatic insufficiency (Child-Pugh score 5 to 9). There are. . .

L6 ANSWER 2 OF 35 PROMT COPYRIGHT 2004 Gale Group on STN

AN 2003:76953 PROMT

TI FDA Approves EMEND -aprepitant-, Merck's New Medicine to Prevent Nausea and Vomiting in Chemotherapy Patients.
SO Business Wire, (26 Mar 2003) pp. 5649.
PB Business Wire
DT Newsletter
LA English
WC 8237
FULL TEXT IS AVAILABLE IN THE ALL FORMAT
AB Business Editors/Health & Pharmaceutical Writers
THIS IS THE FULL TEXT: COPYRIGHT 2003 Business Wire
TX Each . . . contains either 80 mg or 125 mg of aprepitant and the following inactive ingredients: sucrose, microcrystalline cellulose, hydroxypropyl cellulose and **sodium** lauryl sulfate. The capsule shell excipients are gelatin and titanium dioxide. The 125-mg capsule also contains red **ferric** oxide and yellow **ferric** oxide.

A . . . was administered to patients with severe renal insufficiency (CrCl<30 mL/min) and to patients with end stage renal disease (ESRD) requiring **hemodialysis**.

In . . . and protein bound) decreased by 21% and C(max) decreased by 32%, relative to healthy subjects. In patients with ESRD undergoing **hemodialysis**, the AUC(0-)(Infinity) of total aprepitant decreased by 42% and C(max) decreased by 32%. Due to modest decreases in protein binding. . . the AUC of pharmacologically active unbound drug was not significantly affected in patients with renal insufficiency compared with healthy subjects. **Hemodialysis** conducted 4 or 48 hours after dosing had no significant effect on the pharmacokinetics of aprepitant; less than 0.2% of the dose was recovered in the **dialysate**.

No dosage adjustment for EMEND is necessary for patients with renal insufficiency or for patients with ESRD undergoing **hemodialysis**.

Aprepitant cannot be removed by **hemodialysis**.

No dosage adjustment is necessary for patients with renal insufficiency or for patients with end stage renal disease undergoing **hemodialysis**.

Inactive Ingredients: Sucrose, microcrystalline cellulose, hydroxypropyl cellulose and **sodium** lauryl sulfate. The capsule shell excipients are gelatin and titanium dioxide. The 125-mg capsule shell also contains red **ferric** oxide and yellow **ferric** oxide.

L6 ANSWER 3 OF 35 PROMT COPYRIGHT 2004 Gale Group on STN

AN 2003:621066 PROMT
TI Combined Analysis Showed an Antiemetic Regimen Including EMEND Significantly Improved Control of Chemotherapy-Induced Nausea and Vomiting in Both Women and Men, Compared to Control Regimen.
SO Business Wire, (8 Dec 2003) pp. 5233.
PB Business Wire
DT Newsletter
LA English
WC 7767
FULL TEXT IS AVAILABLE IN THE ALL FORMAT
AB Business Editors/Pharmaceutical Writers
THIS IS THE FULL TEXT: COPYRIGHT 2003 Business Wire
TX Aprepitant . . . for oral administration contains either 80 mg or 125 mg of aprepitant and the following inactive ingredients: sucrose, microcrystalline cellulose, hydroxypropyl cellulose and **sodium** lauryl sulfate. The capsule shell excipients are gelatin and titanium dioxide. The 125-mg capsule also contains red **ferric** oxide and yellow **ferric** oxide.

A . . . administered to patients with severe renal insufficiency (CrCl less than 30 mL/min) and to patients

with end stage renal disease (ESRD) requiring **hemodialysis**.

In patients with severe renal insufficiency, the AUC0-(Infinity) of total aprepitant (unbound and protein bound) decreased by 21% and Cmax decreased by 32%, relative to healthy subjects. In patients with ESRD undergoing **hemodialysis**, the AUC0-(Infinity) of total aprepitant decreased by 42% and Cmax decreased by 32%. Due to modest decreases in protein binding of aprepitant. . . with renal disease, the AUC of pharmacologically active unbound drug was not significantly affected in patients with renal insufficiency compared with healthy subjects. **Hemodialysis** conducted 4 or 48 hours after dosing had no significant effect on the pharmacokinetics of aprepitant; less than 0.2% of the dose was recovered in the **dialysate**.

No dosage adjustment for EMEND is necessary for patients with renal insufficiency or for patients with ESRD undergoing **hemodialysis**.

No . . . should be provided. Because of the antiemetic activity of aprepitant, drug-induced emesis may not be effective.

Aprepitant cannot be removed by **hemodialysis**.

No dosage adjustment is necessary for patients with renal insufficiency or for patients with end stage renal disease undergoing **hemodialysis**.

No dosage adjustment is necessary for patients with mild to moderate hepatic insufficiency (Child-Pugh score 5 to 9). There are. . .

Inactive Ingredients: Sucrose, microcrystalline cellulose, hydroxypropyl cellulose and **sodium** lauryl sulfate. The capsule shell excipients are gelatin and titanium dioxide. The 125-mg capsule shell also contains red **ferric** oxide and yellow **ferric** oxide.

L6 ANSWER 4 OF 35 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2004-167150 [16] WPIDS
DNN N2004-133215 DNC C2004-066304
TI Method for diagnosing clinical conditions e.g. cardiac arrhythmia common in a **hemodialysis** patient involves associating symptoms of the patient and applying clinical diagnosis algorithm for the symptom.
DC B04 B05 D16 P31 S05 T01
IN LEWIS, V T; SCHREIBER, B
PA (SIGT) SIGMA-TAU PHARM INC
CYC 1
PI US 2003225162 A1 20031204 (200416)* 26
ADT US 2003225162 A1 Provisional US 2002-352505P 20020131, US 2003-355263 20030131
PRAI US 2002-352505P 20020131; US 2003-355263 20030131
AB US2003225162 A UPAB: 20040305
NOVELTY - A method of diagnosing clinical conditions common in a **hemodialysis** patient involves associating symptoms of the patient with a symptom category selected from secondary cardiomyopathy, **dialysis** related hypotension, cardiac arrhythmia, muscle wasting or weakness, muscle cramping, protein catabolism, lack of energy and delayed or diminished response to erythropoietin; and applying clinical diagnosis algorithm for the symptom category.

USE - For diagnosing clinical conditions that are common in **hemodialysis** patients and that may be related to abnormal carnitine metabolism resulting from **hemodialysis** e.g. secondary cardiomyopathy, **dialysis** related hypotension, cardiac arrhythmia, muscle wasting or weakness, muscle cramping, protein catabolism, lack of energy or delayed or diminished response to erythropoietin (claimed).

ADVANTAGE - The method monitors and improves the intravenous administration of therapeutic levocarnitine to end stage renal disease (ESRD) patients by providing clinical algorithms and accompanying tools that are adapted to assist health care professionals in assessing patient status from such symptoms and identifying therapeutic actions to take.
Dwg.0/16

TI Method for diagnosing clinical conditions e.g. cardiac arrhythmia common in a **hemodialysis** patient involves associating symptoms of the patient and applying clinical diagnosis algorithm for the symptom.

AB US2003225162 UPAB: 20040305

NOVELTY - A method of diagnosing clinical conditions common in a **hemodialysis** patient involves associating symptoms of the patient with a symptom category selected from secondary cardiomyopathy, **dialysis** related hypotension, cardiac arrhythmia, muscle wasting or weakness, muscle cramping, protein catabolism, lack of energy and delayed or diminished response. . . and applying clinical diagnosis algorithm for the symptom category.

USE - For diagnosing clinical conditions that are common in **hemodialysis** patients and that may be related to abnormal carnitine metabolism resulting from **hemodialysis** e.g. secondary cardiomyopathy, **dialysis** related hypotension, cardiac arrhythmia, muscle wasting or weakness, muscle cramping, protein catabolism, lack of energy or delayed or diminished response. . .

TECH. . .

accessed via computer that records the data for individual patents. The method additionally involves the step of evaluating the patient's pre-**dialysis** plasma carnitine concentration, determining if the pre-**dialysis** carnitine level is below normal, and if so, initiating levocarnitine injection therapy; and the step of monitoring the levocarnitine injection. . . of medication and supplements and patient assessments. The clinical algorithm for the symptom categories of secondary cardiomyopathy and hypotension during **dialysis** involves:

(a) evaluating the patient by a clinical exam, in which types of treatments are considered that include controlling blood pressure,. . . subsequent clinical exams; and

(c) if none of the types of treatments provide adequate improvement upon evaluation, then evaluating the patient's pre-**dialysis** plasma carnitine concentration, determining if the pre-**dialysis** plasma carnitine level is below normal, and if so initiating levocarnitine injection therapy.

The clinical algorithm for cardiac arrhythmia involves:

(a) evaluating. . . patient by a clinical exam;

(b) determining whether the symptoms are related to an underlying medical condition or to effects from **dialysis**;

(c) if the arrhythmia symptoms are related to the medical condition, then providing treatment relating to the condition, and monitoring the patient in subsequent clinical exams;

(d) if the arrhythmia symptoms are related to **dialysis** treatment, adjusting the **dialysis** process using if possible, prolonging **dialysis** to moderate fluid shifts, and administering oxygen during **dialysis**;

(e) if any of the adjustments to the **dialysis** process control the arrhythmia symptoms upon evaluation, then continuing the improving adjustments and monitoring the patient in subsequent clinical exams; and

(f) if any of the adjustments to the **dialysis** process do not control the arrhythmia symptoms, then evaluating the patient's pre-**dialysis** plasma carnitine concentration, determining if the pre-**dialysis** carnitine level is below normal, and if so initiating levocarnitine injection therapy.

The clinical algorithm for muscle wasting or weakness and. . . rule out a non-renal illness or condition as the cause or origin of the

malaise/fatigue symptoms;
(b) evaluating factors specific to **dialysis**, including inadequate **dialysis** and incompletely compensated anemia;
(c) if inadequate **dialysis** is a possible cause of the malaise or fatigue symptoms, adjusting the **dialysis** accordingly;
(d) if the adjusted **dialysis** relives the symptoms of malaise or fatigue, then continuing the successful measures and re-evaluating the patient's condition as necessary;
(e) if the adjusted **dialysis** does not relieve the malaise/fatigue symptoms or if both inadequate **dialysis** and incompletely compensated anemia are excluded as possible causes of the malaise/fatigue symptoms, then evaluating the patient's pre-**dialysis** plasma carnitine concentration, determining if the pre-**dialysis** carnitine level is below normal, and if so initiating levocarnitine injection therapy;
(f) if incompletely compensated anemia is a possible cause. . . for delayed/diminished response to erythropoietin.
The clinical algorithm for delayed or diminished response to erythropoietin involves:
(a) evaluating the patient of **iron** deficiency and, if present, treating accordingly;
(b) evaluating the patient for possible acquired infection, inflammation or malignancy and if present treating. . . for vitamin deficiencies and if present treating accordingly; and
(i) if none of the previous indications are present, evaluating the patient's pre-**dialysis** carnitine concentration, determining if the pre-**dialysis** carnitine level is below normal, and if so initiating levocarnitine injection therapy.
The step of evaluating the patient for muscle. . . for aluminum toxicity, and if present treating accordingly; and
(h) if none of the previous etiologies are present, evaluating the patient's pre-**dialysis** plasma carnitine concentration, determine if the pre-**dialysis** carnitine level is below normal, and if so initiating levocarnitine injection therapy.
The clinical algorithm for the **dialysis** related hypotension involves:
(a) evaluating the patient by a clinical exam;
(b) determining whether symptoms of hypotension are an acute episode or. . . for intradialytic weight gain greater than 1 kg/d, re-evaluating dry weight and avoiding ultrafiltration below the dry weight value, using **bicarbonate** containing **dialysate**, and reviewing anemia treatment to see if improvements are necessary;
(f) if the symptoms are chronic sustained condition, then conducting at. . . conditions as necessary;
(j) if the initial measure provide inadequate improvement, applying at least one additional measures selected from withholding pre **hemodialysis** blood pressure medications, lowering **dialysate** temperature, omitting specific foods or glucose containing solutions, adjusting **dialysate** calcium, conducting high **sodium** or **sodium** gradient **dialysis**, using a blood volume monitor, adding additional treatment(s) per week, and conducting sequential treatments;
(k) if the additional measures provide adequate. . . measures and reevaluating the patient as necessary; and
(n) if the pharmacological therapy measures provide inadequate improvement, then evaluating the patient's pre-**dialysis** plasma carnitine concentration, determine if the pre-**dialysis** plasma carnitine concentration, determine if the pre-**dialysis** plasma carnitine level is below normal, and if so, initiating levocarnitine injection therapy.
The results of each completed step are recorded. . . charting tool that contains the steps of the clinical algorithm for the symptom categories of

secondary cardiomyopathy and hypotension during **dialysis**, cardiac arrhythmia, muscle wasting or weakness (such as muscle cramping), malaise/fatigue, delayed or diminished response to erythropoietin, muscle myopathy and **dialysis** related hypotension.

L6 ANSWER 5 OF 35 JICST-EPlus COPYRIGHT 2004 JST on STN
AN 1030658033 JICST-EPlus
TI An in vitro evaluation of the glycation potential of a natural disaccharide, trehalose
AU MOTOMIYA Y; HIGASHI T; MASUDA M
IWAMOTO H; MIURA K; YOSHIMURA Y
MARUYAMA I
CS Suiyukai Clinic, Nara, Jpn
A&t Corp., Kanagawa, Jpn
Kagoshima Univ., Kagoshima, Jpn
SO Clin Exp Nephrol, (2003) vol. 7, no. 3, pp. 195-200. Journal Code: L3173A (Fig. 4, Ref. 32)
ISSN: 1342-1751
CY Japan
DT Journal; Article
LA English
STA New
AB Background. Glucose, an osmotic agent generally used in continuous ambulatory peritoneal **dialysis** (CAPD) **dialysate**, has a critical characteristic of forming advanced glycation endproducts (AGEs). We undertook this study to investigate whether a possible osmotic agent, trehalose, formed fewer AGEs than glucose. Methods. Hemoglobin (Hb), a counter-protein of AGE, was incubated in four kinds of medium; glucose-phosphate **buffered saline** (PBS), autoclaved glucose-PBS, trehalose-PBS, and autoclaved trehalose-PBS, for 3, 7, 14, and 30 days, respectively. Polymerization of the Hb molecule was detected by **sodium** dodecylsulfate-polyacrylamide gel electrophoresis (SDS-PAGE), and carboxymethylated Hb was detected by Western blotting, using specific monoclonal antibody for carboxymethylated N-terminal valine-Hb (CMV-Hb). Results. PBS containing glucose showed bands of polymerized Hb molecule, a phenomenon which was markedly exaggerated by autoclaving. Likely, PBS containing glucose showed the formation of CMV-Hb in the long incubation of 30 days, and PBS containing autoclaved glucose showed accelerated formation of CMV-Hb in an incubation as short as 3 days. By contrast, PBS containing trehalose showed much less increase in a band of 30k Dalton and in CMV-Hb formation even in autoclaved medium. Conclusions. Our present in vitro study clearly showed the superior characteristic of trehalose to produce fewer AGEs. Based upon the results of this study, we propose that the application of trehalose should be considered for CAPD solution. (author abst.)
AB Background. Glucose, an osmotic agent generally used in continuous ambulatory peritoneal **dialysis** (CAPD) **dialysate**, has a critical characteristic of forming advanced glycation endproducts (AGEs). We undertook this study to investigate whether a possible osmotic. . . formed fewer AGEs than glucose. Methods. Hemoglobin (Hb), a counter-protein of AGE, was incubated in four kinds of medium; glucose-phosphate **buffered saline** (PBS), autoclaved glucose-PBS, trehalose-PBS, and autoclaved trehalose-PBS, for 3, 7, 14, and 30 days, respectively. Polymerization of the Hb molecule was detected by **sodium** dodecylsulfate-polyacrylamide gel electrophoresis (SDS-PAGE), and carboxymethylated Hb was detected by Western blotting, using specific monoclonal antibody for carboxymethylated N-terminal valine-Hb. . .
CT glycoxylation; disaccharide; in vitro experiment; osmotic pressure; CAPD; hemoglobin; **buffer** solution; autoclave; culture(biology); phosphate(salt); saccharification; **dialysis** fluid; alkylation; gel electrophoresis; glucoside; pyranoside; aldose; hexose

BT condensation reaction; chemical reaction; oligosaccharide; carbohydrate; experiment; pressure; peritoneal **dialysis**; **hemodialysis** ; extracorporeal circulation; circulation; therapy; **dialysis**; membrane separation; separation; blood pigment; blood protein; blood component; component; animal protein; protein; biopigment; coloring matter; hemoprotein; **iron** protein; metalloprotein; chromoprotein; electrolytic solution; solution(liquid); liquid; pressure vessel; container; incubate; phosphorus oxoate; oxoate; oxygen compound; oxygen group element compound;. . .

ST AGE; carboxymethylation; **sodium** dodecyl sulfate-polyacrylamidegel electrophoresis

L6 ANSWER 6 OF 35 MEDLINE on STN

AN 2004000871 MEDLINE

DN PubMed ID: 14666505

TI [Renal osteodystrophy Guidelines].
Linee Guida osteodistrofia renale.

AU Messa P

CS Italian Society of Nephrology.

SO Giornale italiano di nefrologia : organo ufficiale della Societa italiana di nefrologia, (2003 Sep-Oct) 20 Suppl 24 S83-95. Ref: 135
Journal code: 9426434. ISSN: 0393-5590.

CY Italy

DT (GUIDELINE)
Journal; Article; (JOURNAL ARTICLE)
(PRACTICE GUIDELINE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)

LA Italian

FS Priority Journals

EM 200402

ED Entered STN: 20040106
Last Updated on STN: 20040203
Entered Medline: 20040202

AB Renal ostedystrophy (ROD) is a major long-term complication in uremic patients. Bone histomorphometry still remains the gold standard for the diagnosis of ROD. However, the low acceptance grade by patients makes bone biopsy a rarely performed and not easily repeatable investigation. No other instrumental assessment has been proved as yet to have sufficient sensitivity for ROD diagnosis. Many biochemical markers have been proposed for a diagnostic role, but few have a real predictive diagnostic value. Serum intact PTH (i-PTH) levels are thought to represent a good predictor of bone lesions. However, although a i-PTH level greater than 450 pg/mL and lower than 120 pg/mL may well predict high and low bone turnover disease respectively, in the wide range of values defined by the above border levels i-PTH does not have a predictive role for ROD. There is as yet no definite proof that the recently developed PTH assays might increase their diagnostic sensitivity. Bone alkaline phosphatase is a more reliable index of bone turnover than i-PTH levels. With regards to Al overload, given that an **iron** overburden is excluded, serum Al levels lower than 30 ug/L are seldom associated with increased Al deposition; conversely, levels above 60 mg/L are highly diagnostic for Al overload. In the latter condition, a DFO test is recommended. The main goals of ROD treatment are a) to maintain serum i-PTH levels between 120 and 150 pg/mL; b) to bring the phosphate (Pi) concentration under 5.5 mg/dL, Ca concentration between 9.2 and 10.4 mg/dL, and the Ca x Pi product under 55 mg/dL; c) to bring Al concentration under 20 ug/L; and d) to target serum **bicarbonate** levels between 20 and 24 mmol/L.
The main therapeutic approaches include: Dietary Pi intake control (< 1200 mg/day). Intestinal phosphate binding using calcium salts and sevelamer. Calcium salts must be used at a dosage that avoids Ca overload (< 23 g/day). If Pi control is not reached, Mg and Al salts may be added at a

dose lower than 2 g/day and for less than 3 months. Appropriate **dialysis** dose (KT/V > 1.2) and **dialysis** time (consider increased **dialysis** duration or session number for a week). Ca concentration in **dialysate** and infusion fluids can range between 1.25 and 2.00 mmol/L, according to the **dialysis** technique and to maintain an appropriate Ca balance. Vitamin D should not be used when i-PTH levels are < 120 pg/mL and/or serum Ca > 11 mg/dL and/or Pi > 6.5 mg/dL. The vitamin D dose should be proportional to PTH levels, with a larger dose given as a bolus (23 ug twice or three times per week). The intravenous route should be preferred in the case of very high i-PTH (> 700 pg/mL) or after 3 months of unsuccessful oral treatment. PTX should be prescribed on the basis of the clinical, biochemical, and instrumental data. A 7/8 PTX, when possible, is the most advisable procedure. Bone transplant disease (BTD) is caused by a combination of previous uremic ROD and bone lesions occurring after renal transplantation, mainly secondary to steroid effect. The main clinical result of BTD is the osteopenicosteoporotic syndrome, which frequently results in bone fractures. The most effective treatment of BTD is a reduction of the cumulative steroid dose. No strong evidence has been produced as yet for a preventive role of either bisphosphonates or vitamin D supplementation on BTD.

AB . . . phosphatase is a more reliable index of bone turnover than i-PTH levels. With regards to Al overload, given that an **iron** overburden is excluded, serum Al levels lower than 30 ug/L are seldom associated with increased Al deposition; conversely, levels above. . . Ca x Pi product under 55 mg/dL; c) to bring Al concentration under 20 ug/L; and d) to target serum **bicarbonate** levels between 20 and 24 mmol/L. The main therapeutic approaches include: Dietary Pi intake control (< 1200 mg/day). Intestinal phosphate. . . and Al salts may be added at a dose lower than 2 g/day and for less than 3 months. Appropriate **dialysis** dose (KT/V > 1.2) and **dialysis** time (consider increased **dialysis** duration or session number for a week). Ca concentration in **dialysate** and infusion fluids can range between 1.25 and 2.00 mmol/L, according to the **dialysis** technique and to maintain an appropriate Ca balance. Vitamin D should not be used when i-PTH levels are < 120. . .

L6 ANSWER 7 OF 35 PROMT COPYRIGHT 2004 Gale Group on STN

AN 2002:28408 PROMT

TI Rockwell Medical Technologies, Inc. Signs Exclusive, Worldwide, Proprietary Licensing Agreements to Market Water-Soluble **Iron** Through Its **Dialysate**.

SO PR Newswire, (15 Jan 2002) pp. DETU01015012002.

PB PR Newswire Association, Inc.

DT Newsletter

LA English

WC 1236

FULL TEXT IS AVAILABLE IN THE ALL FORMAT

AB WIXOM, Mich. -- Rockwell Medical Technologies, Inc. , a leading, innovative **hemodialysis** concentrate manufacturer in the healthcare industry, reported today that it has signed separate licensing agreements that give the Company exclusive, worldwide proprietary rights to manufacture, market and distribute a water-soluble **iron** supplement via the Company's **dialysate**.

TI Rockwell Medical Technologies, Inc. Signs Exclusive, Worldwide, Proprietary Licensing Agreements to Market Water-Soluble **Iron** Through Its **Dialysate**.

WIXOM, Mich. -- Rockwell Medical Technologies, Inc. , a leading, innovative **hemodialysis** concentrate manufacturer in the healthcare industry, reported today that it has signed separate licensing

agreements that give the Company exclusive, worldwide proprietary rights to manufacture, market and distribute a water-soluble **iron** supplement via the Company's **dialysate**.

THIS IS THE FULL TEXT: COPYRIGHT 2002 PR Newswire Association, Inc.

TX WIXOM, Mich. -- Rockwell Medical Technologies, Inc. , a leading, innovative **hemodialysis** concentrate manufacturer in the healthcare industry, reported today that it has signed separate licensing agreements that give the Company exclusive, worldwide proprietary rights to manufacture, market and distribute a water-soluble **iron** supplement via the Company's **dialysate**.

Rockwell . . . Inc. and Charak, LLC, that grant the Company the exclusive, worldwide rights to manufacture, market and distribute liquid and dry **dialysate** compositions containing water-soluble **iron** to be administered to both **hemodialysis** and peritoneal **dialysis** patients with renal failure.

Rockwell . . . both Ash Medical Systems, Inc. and Charak, LLC relating to the pharmaceutical composition, methods of use and delivery for all **iron** compounds, and specifically **ferric** pyrophosphate, to a **dialysis** patient. Based on results from FDA approved Phase II clinical studies, using **dialysate** as the delivery mechanism in **hemodialysis** patients, **ferric** pyrophosphate decreases the need for intravenous **iron** (IV **iron**) by 80% and consequently reduces the risks associated with the toxic effects of IV **iron** such as hypotension and anaphylactoid reactions, which can be life threatening. Unlike the IV **iron**, **ferric** pyrophosphate does not require processing by the liver and thereby eliminates the liver toxicity. It is effective in treating patients who are not able to release **iron** from storage sites due to a co-existent inflammatory state. Phase II clinical studies also showed that **ferric** pyrophosphate is well tolerated by patients without any short-term or long-term side effects. Most importantly, it maintains a constant state of **iron** balance thereby facilitating the hematopoietic effects of erythropoietin (EPOGEN), without overloading the tissues with **iron** and thereby mitigating oxidative injury. Released pyrophosphate is also an anti-oxidant, which reduces the negative impact of oxidative stress that occurs to the patient during **dialysis**.

Iron administration via **dialysate** is ideally suited for **hemodialysis** and peritoneal **dialysis** patients, and also those receiving **hemodialysis** at home who currently must travel to a hospital on a regular basis to receive IV **iron**. Furthermore, **iron** delivery via the **dialysate** eliminates nursing and pharmaceutical administration costs associated with IV **iron** administration.

Iron deficiency is very common among **hemodialysis** patients due to the administration of a drug manufactured by Amgen, Inc., called EPOGEN (Epoetin alfa), that helps the body make red blood cells but also increases the body's need for **iron**, and due to the loss of blood that the **dialysis** patient experiences during treatment. Currently, a **dialysis** patient can receive **iron** orally, which is not very effective due to stomach problems, nausea and poor patient compliance, or intravenously, whereas **iron** is absorbed into the liver and is slowly released into the bloodstream losing much of its potency, and which can also cause serious adverse reactions. IV **iron** is the most prevalent form of **iron** administration currently used in **dialysis** and is manufactured by both American Regent Laboratories, Inc. and Watson Pharmaceuticals, Inc.

Rockwell estimates that the U.S. **dialysis** market for IV **iron** supplements represents greater than $350,000,000 annually. Worldwide it estimates that there are more than 1 million **dialysis** patients. The Company estimates that the global market potential for **iron** supplementation is more than double the U.S. potential

representing approximately $750,000,000 annually.

Mr. . . . respected nephrologists within the renal community, and both have a passion for their work. This product will benefit both the **dialysis** patient and the **dialysis** provider.

Dialysis patients need **iron** and based on clinical work, **ferric** pyrophosphate administered via **dialysate** is a safer, more effective and less costly method to deliver the needed **iron** to the **dialysis** patient." Mr. Chioini further stated, "Adding **ferric** pyrophosphate to our acidified concentrate product line will give us a proprietary product and should put us in a strong position to increase market share in the **dialysis** concentrate market. This development, coupled with our Dri-Sate Dry Acid Concentrate and our recent exclusive blood tubing contract, gives us the ability to offer innovative, high-quality, proprietary products that not only lower the cost- per-treatment for the **dialysis** provider but that also improve the quality of patient care every **dialysis** provider can offer."

Dr. Ajay Gupta, President of Charak, LLC stated, "Administration of **ferric** pyrophosphate via **dialysate** is a major advancement in the treatment of anemia in **hemodialysis** patients. It is the first demonstration that a simple **iron** salt can be delivered safely and effectively directly into the blood stream. It has potential to overcome functional **iron** deficiency, a hallmark of kidney failure, and thereby overcome resistance to EPOGEN action. Compared with the polymeric **iron** complexes delivered intravenously it has potential to reduce liver **iron** accumulation and liver injury, reduce oxidative stress and the associated vascular disease that predisposes heart attacks, strokes and gangrene and. . .

Dr. Stephen Ash, Chairman and Director of R&D of Ash Medical Systems, Inc. said, "The cost, effort and risk of IV **iron** is a problem to every **dialysis** unit in the country. The safe and effective administration of **iron** salts through **dialysate** should very quickly become the most desirable **dialysate** for the great majority of **dialysis** patients worldwide."

Rockwell . . . reported that it signed an exclusive, multi-year contract with Nipro Medical Corporation (based in Osaka, Japan) to market and distribute **hemodialysis** blood tubing sets in the United States, which is a market estimated to generate more than $150 million annually, and. . .

Rockwell Medical Technologies, Inc., is an innovative leader in manufacturing, marketing and delivering high-quality **dialysis** solutions, powders and ancillary products to **hemodialysis** providers. **Hemodialysis** is a process that duplicates kidney function for patients whose kidneys have failed to function properly and suffer from end-stage renal disease (ESRD). There are an estimated 350,000 **dialysis** patients in the United States and the incidence of ESRD has increased 6-8% on average each year over the last. . . cleanse the ESRD patient's blood and replace nutrients in the bloodstream. Rockwell offers Dri-Sate Dry Acid, Liquid Acid, SteriLyte(TM) Liquid **Bicarbonate**, Powder **Bicarbonate**, Blood Tubing Sets, Fistula Needles and a wide range of ancillary **dialysis** items. Visit Rockwell's website at http://www.rockwellmed.com/ for more information.

This . . . might cause actual results to vary. These include, but are not limited to, general economic conditions, economic conditions in the **hemodialysis** industry, competitive factors and other factors discussed in Rockwell's reports filed with the Securities and Exchange Commission. The forward-looking statements. . .

RN 7439-89-6 (**IRON**)

L6 ANSWER 8 OF 35 PROMT COPYRIGHT 2004 Gale Group on STN

AN 2002:72555 PROMT
TI Rockwell Medical Technologies, Inc. Signs Exclusive Supply Agreement For Distribution in Macedonia.
SO PR Newswire, (5 Feb 2002) pp. HSTU00405022002.
PB PR Newswire Association, Inc.
DT Newsletter
LA English
WC 527
FULL TEXT IS AVAILABLE IN THE ALL FORMAT
AB WIXOM, Mich. -- Rockwell Medical Technologies, Inc. a leading, innovative **hemodialysis** concentrate manufacturer in the healthcare industry, announced today that it has entered into an exclusive distribution agreement with Al-Mak Flower, Inc. for the sale and distribution of its Dri-Sate Dry Acid Concentrate Mixing System and its **Bicarbonate** Powder Concentrate in Macedonia.

WIXOM, Mich. -- Rockwell Medical Technologies, Inc. a leading, innovative **hemodialysis** concentrate manufacturer in the healthcare industry, announced today that it has entered into an exclusive distribution agreement with Al-Mak Flower, Inc. for the sale and distribution of its Dri-Sate Dry Acid Concentrate Mixing System and its **Bicarbonate** Powder Concentrate in Macedonia.
THIS IS THE FULL TEXT: COPYRIGHT 2002 PR Newswire Association, Inc.
TX WIXOM, Mich. -- Rockwell Medical Technologies, Inc. a leading, innovative **hemodialysis** concentrate manufacturer in the healthcare industry, announced today that it has entered into an exclusive distribution agreement with Al-Mak Flower, Inc. for the sale and distribution of its Dri-Sate Dry Acid Concentrate Mixing System and its **Bicarbonate** Powder Concentrate in Macedonia.
The . . . three years. According to the agreement, Al-Mak Flower, Inc. will purchase minimum amounts of Rockwell's Dri-Sate Dry Acid Concentrate and **Bicarbonate** Powder Concentrate over the next 36 months. Purchase volumes are anticipated to be a minimum of $1 million during the. . .

Rockwell recently reported that it signed exclusive, worldwide, proprietary licensing agreements to market water-soluble **iron** through its **dialysate**. The Company believes that this innovation will represent a major advancement in the treatment of anemia in **hemodialysis** patients.

Rockwell Medical Technologies, Inc., is an innovative leader in manufacturing, marketing and delivering high-quality **dialysis** solutions, powders and ancillary products to **hemodialysis** providers. Its Dri-Sate Dry Acid Concentrate provides substantial distribution synergies and operating efficiencies over traditional concentrate delivery in large drums of liquid. Its gamma-irradiated SteriLyte(TM) Liquid **Bicarbonate** Product Line provides extended shelf life and safety giving its customers an added degree of security. In January, Rockwell introduced. . .

Hemodialysis is a process that duplicates kidney function for patients whose kidneys have failed to function properly and suffer from end-stage renal disease (ESRD). There are an estimated 350,000 **dialysis** patients in the United States and the incidence of ESRD has increased 6-8% on average each year over the last. . . cleanse the ESRD patient's blood and replace nutrients in the bloodstream. Rockwell offers Dri-Sate Dry Acid, Liquid Acid, SteriLyte(TM) Liquid **Bicarbonate**, Powder **Bicarbonate**, Blood Tubing Sets, Fistula Needles and a wide range of ancillary **dialysis** items. Visit Rockwell's website at http://www.rockwellmed.com/ for more information.

This . . . might cause actual results to vary. These include, but are not limited to, general economic conditions, economic conditions in the **hemodialysis** industry, competitive factors and other factors

discussed in Rockwell's reports filed with the Securities and Exchange Commission. The forward-looking statements. . .

L6 ANSWER 9 OF 35 PROMT COPYRIGHT 2004 Gale Group on STN

AN 2002:131874 PROMT
TI Rockwell Medical Technologies, Inc. Reports Fourth Quarter Results; 2001 Revenue Up 20.9% Over 2000.
SO PR Newswire, (28 Feb 2002) pp. DETH03128022002.
PB PR Newswire Association, Inc.
DT Newsletter
LA English
WC 1068
FULL TEXT IS AVAILABLE IN THE ALL FORMAT
AB WIXOM, Mich. -- Rockwell Medical Technologies, Inc. , a leading, innovative **hemodialysis** concentrate manufacturer in the healthcare industry, reported today that its fourth quarter 2001 revenue was $2,334,000 and 8.7% higher than the fourth quarter of 2000. Fourth quarter revenue was the highest in the Company's history. Fourth quarter loss per share was ($.07) on a loss of ($478,000) which included a loss on disposition of equipment and relocation expenses that aggregated $82,000.
THIS IS THE FULL TEXT: COPYRIGHT 2002 PR Newswire Association, Inc.
WIXOM, Mich. -- Rockwell Medical Technologies, Inc. , a leading, innovative **hemodialysis** concentrate manufacturer in the healthcare industry, reported today that its fourth quarter 2001 revenue was $2,334,000 and 8.7% higher than. . .
TX WIXOM, Mich. -- Rockwell Medical Technologies, Inc. , a leading, innovative **hemodialysis** concentrate manufacturer in the healthcare industry, reported today that its fourth quarter 2001 revenue was $2,334,000 and 8.7% higher than. . .
Sales . . . an increase of 20.9% over 2000, reflecting substantial growth in the Company's Dri-Sate Dry Acid Concentrate product line and overall **dialysis** concentrate product sales. The Company's operating loss was ($1,579,100) in 2001 as compared to ($1,016,800) in 2000. Loss per share. . .
On January 15, 2002, the Company announced that it has signed global licensing agreements for the inclusion of water soluble **iron** in its **dialysate** products. During Phase II clinical trials, **Ferric** Pyrophosphate was well tolerated by patients and proved to be effective at **iron** maintenance therapy without serious side effects noted with intravenous **iron**. The Company is required to obtain FDA approval to add **iron** to its **dialysate** and is currently working with the FDA on the scope and duration of Phase III clinical trials for **Ferric** Pyrophosphate. The Company believes that upon FDA approval **iron** maintenance therapy via **dialysate** will provide the Company with a proprietary product line.
Mr. . . . "We are pleased with our overall development efforts in 2001 in terms of both new product development with water soluble **iron** and market acceptance of our Dri-Sate and other product lines. We think Rockwell is poised to lead the migration of the provider market to dry products and away from drums. We are very excited about the prospects for **Ferric** Pyrophosphate as a significant improvement in **iron** maintenance therapy that we think will benefit patient outcomes and deliver operating efficiencies to providers both of which we believe will be compelling reasons for **dialysis** providers to switch to Rockwell."
Rockwell Medical Technologies, Inc., is an innovative leader in manufacturing, marketing and delivering high-quality **dialysis** solutions, powders and ancillary products to **hemodialysis** providers. **Hemodialysis** is a process which duplicates kidney function for patients whose kidneys have failed to function properly and

suffer from end-stage renal disease (ESRD). There are an estimated 350,000 **dialysis** patients in the United States and the incidence of ESRD has increased 6-8% on average each year over the last decade. Rockwell offers Dri-Sate Dry Acid, Liquid Acid, SteriLyte(TM) Liquid **Bicarbonate**, Powder **Bicarbonate** and a wide range of ancillary **dialysis** items including blood tubing. Rockwell's products are used to cleanse the ESRD patient's blood and replace nutrients in the bloodstream.. . .

This . . . might cause actual results to vary. These include, but are not limited to, general economic conditions, economic conditions in the **hemodialysis** industry, competitive factors and other factors discussed in Rockwell's reports filed with the Securities and Exchange Commission. The forward-looking statements. . .

L6 ANSWER 10 OF 35 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2002-630316 [68] WPIDS
DNC C2002-178004
TI Processing of water for use in medical plant, involves supplying water to flow treatment device having particle layer comprising particles of silicate group ceramics, and containing water with particles.
DC L02
PA (NICH-N) NIPPON CHISUI KK
CYC 1
PI JP 2002143868 A 20020521 (200268)* 12
ADT JP 2002143868 A JP 2000-339403 20001107
PRAI JP 2000-339403 20001107
AB JP2002143868 A UPAB: 20021022

NOVELTY - Water is supplied to a flow treatment device (11) having particle layer comprising particles (12) of silicate group ceramics. The water is subsequently contacted with the particles fluidized by the water flow, and processed.

USE - For processing of water used in medical plant, **hemodialysis**, medical device washing, face-washing, toilets, bathrooms, air-conditioning installation, cooling, boilers, and cooking (claimed).

ADVANTAGE - The silicate group ceramic particles are made to flow by passing water, hence deposition of scale in heat exchanger, pipes, deposition of urinal scale in toilet, sink, deposition of slimes in drainage pipe and odor are inhibited by the generation of electromagnetic energy caused by friction and collision of ceramic particles. The precipitation of calcium carbonate in **hemodialysis** machine is inhibited. When water flows over silicate group ceramics, component in the ceramics is eluted in the water and water is activated without changing the dissolved component. Since the component in the water is not absorbed by the ceramic particle, subsequent water treatment is performed stably. The concentration of harmful substances such as endotoxin by scaling are inhibited. Since excess of elution component is not contained in the treated water, the addition of chemicals and quality control of the **dialysate** is unnecessary. Hence the obstruction of **dialysate** by elution component is prevented. By using silicate group ceramics of specific composition with predetermined sintering strength, the ceramics does not wear out even after repeated collision with water. The water treatment is improved by changing the dielectric constant and by setting the zeta potential formed in the boundary surface of the particle. During collision of water and ceramics the energy generated is utilized efficiently. The generation of red colored water by rust in the drainage pipes is inhibited. The purification of water can be performed stably for a long period of time.

DESCRIPTION OF DRAWING(S) - The figure shows a block diagram of **dialysis** installation supplied with processed water.

Flow treatment device 11
Particle 12

Dwg.1/5
AB . . .
the particles fluidized by the water flow, and processed.
USE - For processing of water used in medical plant, **hemodialysis**, medical device washing, face-washing, toilets, bathrooms, air-conditioning installation, cooling, boilers, and cooking (claimed).
ADVANTAGE - The silicate group ceramic. . . by the generation of electromagnetic energy caused by friction and collision of ceramic particles. The precipitation of calcium carbonate in **hemodialysis** machine is inhibited. When water flows over silicate group ceramics, component in the ceramics is eluted in the water and. . . excess of elution component is not contained in the treated water, the addition of chemicals and quality control of the **dialysate** is unnecessary. Hence the obstruction of **dialysate** by elution component is prevented. By using silicate group ceramics of specific composition with predetermined sintering strength, the ceramics does. . . performed stably for a long period of time.
DESCRIPTION OF DRAWING(S) - The figure shows a block diagram of **dialysis** installation supplied with processed water.
Flow treatment device 11
Particle 12
Dwg.1/5
TECH. . . 20021022
TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Composition: The silicate group ceramics comprises silicon (in weight%) (55-75), aluminum (10-25), **iron** (2-15), calcium (1-10), **potassium** (2-10), **sodium** (0.1-1), magnesium (0.1-1), titanium (0.1-3) and zirconium (0.1-2).

L6 ANSWER 11 OF 35 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2002-345594 [38] WPIDS
DNN N2002-272128 DNC C2002-099036
TI Endotoxin removal from **dialysate**, involves washing with pH **buffer** and water soluble reducer containing dithionous acid salt and carboxylic acid, amino carboxylic acid, phosphoric acid, phosphonic and carbonic acid.
DC D22 P34
PA (CLEA-N) CLEAN CHEMICAL CO
CYC 1
PI JP 2002035112 A 20020205 (200238)* 12
ADT JP 2002035112 A JP 2000-223459 20000725
PRAI JP 2000-223459 20000725
AB JP2002035112 A UPAB: 20020618
NOVELTY - A mixture contains (parts by weight):
(1) pH **buffers** (0.05-6);
(2) water soluble reducer (0.14-4) containing:
(a) dithionous acid salt as main component; and
(b) a compound of hydroxycarboxylic acid, carboxylic acid, amino carboxylic acid, phosphoric acid, organic phosphoric acid, and carbonic acid; and
(3) water (100).
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a method for washing a portion of a **dialysate** supply line in artificial blood **dialysis** apparatus, comprising:
(i) dissolving (1) and (2) in water; and
(ii) using the mixture to wash a portion of a **dialysate** supply line in artificial blood **dialysis** apparatus.
USE - For removing endotoxin from water supply line of a **dialysate** preparation apparatus.
ADVANTAGE - The method enables to remove endotoxins from the water supply line of **dialysate** preparation apparatus. The liquid

specifically removes **iron** from the **dialysis** apparatus.
The resultant **dialysate** is highly pure. The removal of endotoxin accompanied by **iron** is ensured sufficiently. The production of sulfurous acid gas by decomposition of water-soluble reducer component in the cleaning liquid is reduced effectively.
Dwg.0/0

TI Endotoxin removal from **dialysate**, involves washing with pH **buffer** and water soluble reducer containing dithionous acid salt and carboxylic acid, amino carboxylic acid, phosphoric acid, phosphonic and carbonic acid.

AB JP2002035112 UPAB: 20020618
NOVELTY - A mixture contains (parts by weight):
(1) pH **buffers** (0.05-6);
(2) water soluble reducer (0.14-4) containing:
(a) dithionous acid salt as main component; and
(b) a compound of hydroxycarboxylic. . . water (100).
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a method for washing a portion of a **dialysate** supply line in artificial blood **dialysis** apparatus, comprising:
(i) dissolving (1) and (2) in water; and
(ii) using the mixture to wash a portion of a **dialysate** supply line in artificial blood **dialysis** apparatus.
USE - For removing endotoxin from water supply line of a **dialysate** preparation apparatus.
ADVANTAGE - The method enables to remove endotoxins from the water supply line of **dialysate** preparation apparatus. The liquid specifically removes **iron** from the **dialysis** apparatus.
The resultant **dialysate** is highly pure. The removal of endotoxin accompanied by **iron** is ensured sufficiently. The production of sulfurous acid gas by decomposition of water-soluble reducer component in the cleaning liquid is. . .

TT TT: ENDOTOXIN REMOVE DIALYSE WASHING PH **BUFFER** WATER SOLUBLE REDUCE CONTAIN DITHIONOUS ACID SALT CARBOXYLIC ACID AMINO CARBOXYLIC ACID PHOSPHORIC ACID PHOSPHONIC CARBONIC ACID.

L6 ANSWER 12 OF 35 MEDLINE on STN DUPLICATE 1
AN 2002389619 MEDLINE
DN PubMed ID: 12138272
TI Inflammatory markers and platelet aggregation tests as predictors of hemoglobin and endogenous erythropoietin levels in **hemodialysis** patients.
AU Borawski Jacek; Pawlak Krystyna; Mysliwiec Michal
CS Department of Nephrology and Internal Medicine, Medical Academy, Bialystok, Poland.. jborawski@post.pl
SO Nephron, (2002 Aug) 91 (4) 671-81.
Journal code: 0331777. ISSN: 0028-2766.
CY Switzerland
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200301
ED Entered STN: 20020725
Last Updated on STN: 20030131
Entered Medline: 20030130
AB BACKGROUND/AIMS: Chronic inflammation is a common cause of severe anemia and hyporesponsiveness to recombinant erythropoietin (EPO) therapy in maintenance **hemodialysis** (HD) patients. We compared various acute-phase markers and ex vivo platelet aggregation tests in relation to clinical conditions in order to find factors predictive of hemoglobin (Hb) and endogenous EPO levels in a cross-section of clinically stable HD patients. METHODS: In 100 subjects, pre-HD blood levels of C-reactive protein (CRP), alpha(1)-acid-glycoprotein (AGP), alpha(1)-antitrypsin

(AT), immunoglobulin (Ig) M and G (by nephelometry), antigens of endothelial von Willebrand factor (vWF), type 1 plasminogen activator inhibitor and thrombomodulin, interleukin-6, lipoprotein(a) [Lp(a)] and EPO (by ELISA), and albumin, fibrinogen, **iron** metabolism indices, thyroid-stimulating hormone, phosphorus, parathormone, total cholesterol, triglycerides, viral hepatitis B/C markers, liver enzyme, and aluminium were determined. Platelet aggregations in response to ristocetin (RIPA), adenosine diphosphate, and collagen were measured in whole blood (electric impedance method) and platelet-rich plasma (optical aggregometry). RESULTS: Hb levels inversely correlated with IgM, Lp(a), soluble vWF antigen, phosphorus, and all platelet aggregations in whole blood, but not in platelet-rich plasma. HD duration and triglycerides were positive correlates of anemia. In a multivariable analysis, increased IgM, short HD duration, increased Lp(a) and enhanced whole blood RIPA (in descending order of significance) were independent predictors of low Hb levels. In 51 patients not treated with recombinant EPO, serum levels of this hormone inversely correlated with whole blood RIPA, AT, age, vWF antigen, AGP, and positively with viral hepatitis marker. Anemia and EPO levels were not affected by gender, body mass index, cause of renal failure, residual renal function, HD dose, protein catabolic rate, use of different heparins or **dialysate buffers**, ACE inhibitor therapy, and parathyroid or thyroid function. In additional 10 patients, single HD session resulted in an increase in IgM levels associated with a fall in total lymphocyte counts. CONCLUSION: Subclinical inflammation is an important determinant of anemia in maintenance HD patients. Increased serum IgM reflecting a microinflammatory effect of HD procedures, enhanced whole blood RIPA as a surrogate of vascular endothelial damage, and Lp(a) as its promoter could be markers of such impaired erythropoiesis.

TI Inflammatory markers and platelet aggregation tests as predictors of hemoglobin and endogenous erythropoietin levels in **hemodialysis** patients.

AB BACKGROUND/AIMS: Chronic inflammation is a common cause of severe anemia and hyporesponsiveness to recombinant erythropoietin (EPO) therapy in maintenance **hemodialysis** (HD) patients. We compared various acute-phase markers and ex vivo platelet aggregation tests in relation to clinical conditions in order. . . Willebrand factor (vWF), type 1 plasminogen activator inhibitor and thrombomodulin, interleukin-6, lipoprotein(a) [Lp(a)] and EPO (by ELISA), and albumin, fibrinogen, **iron** metabolism indices, thyroid-stimulating hormone, phosphorus, parathormone, total cholesterol, triglycerides, viral hepatitis B/C markers, liver enzyme, and aluminium were determined. Platelet. . . body mass index, cause of renal failure, residual renal function, HD dose, protein catabolic rate, use of different heparins or **dialysate buffers**, ACE inhibitor therapy, and parathyroid or thyroid function. In additional 10 patients, single HD session resulted in an increase in. . .

CT . . .
etiology
*Biological Markers: BL, blood
Cross-Sectional Studies
*Erythropoietin: BL, blood
*Hemoglobins: AN, analysis
*Inflammation: BL, blood
Middle Aged
*Platelet Aggregation
***Renal Dialysis**

L6 ANSWER 13 OF 35 MEDLINE on STN DUPLICATE 2
AN 2002184546 MEDLINE
DN PubMed ID: 11917058

TI Serum hepatocyte growth factor is associated with viral hepatitis, cardiovascular disease, erythropoietin treatment, and type of heparin in haemodialysis patients.

AU Borawski Jacek; Mysliwiec Michak
CS Department of Nephrology and Internal Medicine, Medical Academy, Biakystok, Poland.. jborawsk@polbox.com

SO Nephrology, dialysis, transplantation : official publication of the European Dialysis and Transplant Association - European Renal Association, (2002 Apr) 17 (4) 637-44.
Journal code: 8706402. ISSN: 0931-0509.
CY England: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200208
ED Entered STN: 20020403
Last Updated on STN: 20020816
Entered Medline: 20020815

AB BACKGROUND: Increased serum hepatocyte growth factor (HGF) level is a part of the counter-system against tissue damage and predicts mortality in maintenance haemodialysis (HD) patients. We studied which of the common co-morbid and clinical conditions, and surrogates of metabolic disorders or specific organ damage determine HGF levels in these subjects. METHODS: In 86 patients, pre-**dialysis** serum HGF, soluble endothelial markers--such as thrombomodulin (TM), von Willebrand factor and plasminogen activator inhibitor-1--and hepatitis B and C markers were measured by ELISAs. Inflammatory reactants such as C-reactive protein (CRP), alpha(1)-antitrypsin, alpha(1) acid-glycoprotein, and immunoglobulin M and G were assayed by nephelometry, and lipoprotein(a) was determined by ELISA. Cardiovascular disease (CVD) was identified on a clinical basis. RESULTS: Serum HGF was directly associated with the presence of viral hepatitis, alanine aminotransferase and TM levels, time on HD, the presence of CVD, CRP and alpha(1)-antitrypsin levels, use of unfractionated heparin (UFH) (vs enoxaparin) during HD, dose of UFH, use of recombinant erythropoietin (rHuEpo) treatment, and Kt/V. In 36 patients not treated with rHuEpo, HGF directly correlated with haemoglobin, but not with endogenous Epo levels. There was no association between HGF and the other endothelial and inflammatory markers, gender, age, smoking, cause of renal failure, body mass index, normalized protein catabolic rate, **dialysate buffers**, dialysers, blood pressure, antihypertensive treatment, leukocyte and platelet counts, albumin, fibrinogen, lipoprotein(a), markers of **iron** and calcium-phosphorus metabolism, or metabolic acidosis. Positive viral hepatitis markers, prevalent CVD and rHuEpo treatment (in descending order of significance) were independent predictors of high HGF level. In another 20 HD patients, a 4-week course of rHuEpo treatment resulted in a significant 17% increase in circulating HGF levels. CONCLUSION: Serum HGF levels in HD patients are determined by inflammatory conditions such as viral hepatitis and CVD, increase in response to rHuEpo treatment, and may be influenced by type and dose of heparin used during HD procedures.

AB . . . conditions, and surrogates of metabolic disorders or specific organ damage determine HGF levels in these subjects. METHODS: In 86 patients, pre-**dialysis** serum HGF, soluble endothelial markers--such as thrombomodulin (TM), von Willebrand factor and plasminogen activator inhibitor-1--and hepatitis B and C markers. . . the other endothelial and inflammatory markers, gender, age, smoking, cause of renal failure, body mass index, normalized protein catabolic rate, **dialysate buffers**, dialysers, blood pressure, antihypertensive treatment, leukocyte and platelet counts, albumin, fibrinogen, lipoprotein(a), markers of **iron** and calcium-phosphorus metabolism, or metabolic acidosis. Positive viral hepatitis markers, prevalent CVD and rHuEpo treatment (in descending order

of significance). . .
CT . . .
Recombinant: TU, therapeutic use
*Heparin: TU, therapeutic use
*Hepatitis, Viral, Human: BL, blood
*Hepatocyte Growth Factor: BL, blood
Middle Aged
***Renal Dialysis**

L6 ANSWER 14 OF 35 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 2002:195961 BIOSIS
DN PREV200200195961
TI In vitro measurement of available **iron** in fortified foods.
AU Wolfgor, R.; Drago, S. R.; Rodriguez, V.; Pellegrino, N. R.; Valencia, M. E. [Reprint author]
CS Department of Nutrition and Food Science, School of Pharmacy and Biochemistry, University of Buenos Aires, Junin 956, 1113, Buenos Aires, Argentina
meval@ffyb.uba.ar
SO Food Research International, (2002) Vol. 35, No. 1, pp. 85-90. print.
CODEN: FORIEU. ISSN: 0963-9969.
DT Article
LA English
ED Entered STN: 13 Mar 2002
Last Updated on STN: 13 Mar 2002
AB The objective of this study was to investigate the influence of base systems used to regulate pH values of digests on **iron** dialysability as an indicator of bioavailable **iron**. We studied the pertinence of measuring titratable acidity to pH 7.5 with KOH to calculate **mEq** of NaHCO3 to be used for pancreatic digestion/**dialysis**. The pH achieved using the same **mEq** of each base was lower when using NaHCO3 than when using KOH. The discrepancy between achieved and attempted pH was uneven for several **iron** sources. Differences in pH regulation procedure, including type and concentration of base or **buffer** added to the pepsin digest rendered different final digest/**dialysate** pH values, thus affecting dialysable **iron**. A modification of in vitro equilibrium **dialysis** method is proposed using PIPES **buffer** of sufficient molarity to obtain a uniform final pH of 6.5 in digest/**dialysate** systems. The main factors taken into account to calculate **buffer** concentration were **buffer** capacity of food matrix (HCl **mEq** required to reach pH 2), HCl **mEq** included in the aliquot of pepsin suspension, acid or base **mEq** generated through enzymatic hydrolysis during in vitro digestion and intrinsic food pH (HCl **mEq** to adjust food matrix pH to 6.5). With these data **buffer** molarity for each food matrix can be calculated. Modifications suggested for the equilibrium **dialysis** method allowed development of a uniform final pH of the digest/**dialysate** system in a variety of foods assayed.
TI In vitro measurement of available **iron** in fortified foods.
AB. . . objective of this study was to investigate the influence of base systems used to regulate pH values of digests on **iron** dialysability as an indicator of bioavailable **iron**. We studied the pertinence of measuring titratable acidity to pH 7.5 with KOH to calculate **mEq** of NaHCO3 to be used for pancreatic digestion/**dialysis**. The pH achieved using the same **mEq** of each base was lower when using NaHCO3 than when using KOH. The discrepancy between achieved and attempted pH was uneven for several **iron** sources. Differences in pH regulation procedure, including type and concentration of base or **buffer** added to the pepsin digest rendered different final digest/**dialysate** pH values, thus affecting dialysable **iron**. A modification of in vitro

equilibrium **dialysis** method is proposed using PIPES **buffer** of sufficient molarity to obtain a uniform final pH of 6.5 in digest/**dialysate** systems. The main factors taken into account to calculate **buffer** concentration were **buffer** capacity of food matrix (HCl **mEq** required to reach pH 2), HCl **mEq** included in the aliquot of pepsin suspension, acid or base **mEq** generated through enzymatic hydrolysis during in vitro digestion and intrinsic food pH (HCl **mEq** to adjust food matrix pH to 6.5). With these data **buffer** molarity for each food matrix can be calculated. Modifications suggested for the equilibrium **dialysis** method allowed development of a uniform final pH of the digest/**dialysate** system in a variety of foods assayed.

IT Major Concepts
Foods; Methods and Techniques

IT Chemicals & Biochemicals
iron: bioavailability, dialyzability, fortificant; pepsin

IT Methods & Equipment
equilibrium **dialysis** method: measurement method

IT Miscellaneous Descriptors
fortified foods

RN 7439-89-6 (**iron**)
9001-75-6 (pepsin)

L6 ANSWER 15 OF 35 MEDLINE on STN DUPLICATE 3
AN 2001382370 MEDLINE
DN PubMed ID: 11274275
TI Soluble thrombomodulin is associated with viral hepatitis, blood pressure, and medications in haemodialysis patients.
AU Borawski J; Naumnik B; Pawlak K; Mysliwiec M
CS Department of Nephrology and Internal Medicine, Medical Academy, Bialystok, Poland.
SO Nephrology, dialysis, transplantation : official publication of the European Dialysis and Transplant Association - European Renal Association, (2001 Apr) 16 (4) 787-92.
Journal code: 8706402. ISSN: 0931-0509.
CY England: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200107
ED Entered STN: 20010709
Last Updated on STN: 20010709
Entered Medline: 20010705
AB BACKGROUND: The level of soluble thrombomodulin (sTM), a traditional marker of endothelial injury, is also dependent on renal excretory function. We studied serum sTM in chronic haemodialysis (HD) patients to determine which factors are predictive of its levels in this population. METHODS AND RESULTS: sTM levels of 10.7 (5.72-30.7) ng/ml in 100 HD patients were higher than in 30 controls (P<0.0001). In a bivariate regression analysis, immunoreactive sTM was positively associated with the presence of hepatitis B virus surface antigen and/or anti-hepatitis C virus antibodies measured by third generation ELISAs (P<0.0001), and was related to certain markers of liver injury and biosynthetic dysfunction. sTM was also directly associated with time on **dialysis** (P=0.001), or use of unfractionated heparin (UFH) (vs enoxaparin) (P=0.0007), erythropoietin (P=0.008), ACE-inhibitors (P=0.034), acetate-**buffered dialysate** (vs **bicarbonate**) (P=0.040), pre-**dialysis** systolic (P=0.012), and diastolic blood pressure (P=0.043). It was negatively associated with lipoprotein(a) (P=0.029). sTM was not related to age, sex, smoking, cause of renal failure, prevalence of cardiovascular disease, amount of HD delivered, preserved residual renal function, **ferritin**, C-reactive protein, and other

vasoactive medications used. In a multivariable analysis, a positive hepatitis marker (P=0.0002), the use of UFH (P=0.030) and erythropoietin (P=0.019), and raised pre-**dialysis** blood pressure (P=0.024) were positive independent predictors of high sTM level. CONCLUSION: These data indicate that, in addition to endothelial activation, elevated sTM levels in HD patients may be related to viral infection and/or liver dysfunction, and influenced by modifiable factors such as increased blood pressure, and the type of heparin and erythropoietin treatment used.

AB . . . and was related to certain markers of liver injury and biosynthetic dysfunction. sTM was also directly associated with time on **dialysis** (P=0.001), or use of unfractionated heparin (UFH) (vs enoxaparin) (P=0.0007), erythropoietin (P=0.008), ACE-inhibitors (P=0.034), acetate-**buffered dialysate** (vs **bicarbonate**) (P=0.040), pre-**dialysis** systolic (P=0.012), and diastolic blood pressure (P=0.043). It was negatively associated with lipoprotein(a) (P=0.029). sTM was not related to age, sex, smoking, cause of renal failure, prevalence of cardiovascular disease, amount of HD delivered, preserved residual renal function, **ferritin**, C-reactive protein, and other vasoactive medications used. In a multivariable analysis, a positive hepatitis marker (P=0.0002), the use of UFH (P=0.030) and erythropoietin (P=0.019), and raised pre-**dialysis** blood pressure (P=0.024) were positive independent predictors of high sTM level. CONCLUSION: These data indicate that, in addition to endothelial. . .

CT . . .
Hepatitis, Viral, Human: BL, blood
Hepatitis, Viral, Human: PP, physiopathology
*Kidney Diseases: BL, blood
*Kidney Diseases: TH, therapy
Middle Aged
***Renal Dialysis**
Sex Factors
*Thrombomodulin: BL, blood

L6 ANSWER 16 OF 35 MEDLINE on STN
AN 2001517229 MEDLINE
DN PubMed ID: 11564645
TI A study on the role of nitric oxide and **iron** in 3-morpholino-sydnonimine-induced increases in dopamine release in the striatum of freely moving rats.
AU Serra P A; Rocchitta G; Esposito G; Delogu M R; Migheli R; Miele E; Desole M S; Miele M
CS Department of Pharmacology, University of Sassari, viale S. Pietro 43B, 07100 Sassari, Italy.
SO British journal of pharmacology, (2001 Sep) 134 (2) 275-82. Journal code: 7502536. ISSN: 0007-1188.
CY England: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200112
ED Entered STN: 20010924
Last Updated on STN: 20020122
Entered Medline: 20011204
AB 1. We showed previously that interaction between NO and **iron** (II), both released following the decomposition of **sodium** nitroprusside (SNP), accounted for the late SNP-induced dopamine (DA) increase in **dialysates** from the striatum of freely moving rats; in addition, we showed that co-infusion of **iron** (II) with the NO-donor S-nitroso-N-acetylpenicillamine mimicked SNP effects on striatal DA release. 2. In the present study, intrastriatal co-infusion of **iron** (II) (given as FeSO(4), 1 mM for 40 min) with the NO-donor

and potential peroxynitrite generator 3-morpholinosydnonimine (SIN-1) (0.2, 0.5, 1.0 or 5.0 mM for 180 min), potentiated the SIN-1-induced increase in DA concentration in **dialysates** from the striatum of freely moving rats. Neither alone nor associated with **iron** (II) did SIN-1 induce changes in **dialysate** ascorbic acid or uric acid concentrations. 3. Neither co-infusion of a superoxide dismutase mimetic nor uric acid affected SIN-1-induced increases in **dialysate** DA concentration. 4. Infusion of the **iron** chelator deferoxamine (0.2 mM for 180 min) decreased **dialysate** DA and attenuated SIN-1-induced increases in **dialysate** DA concentrations. 5. These results suggest that **iron** plays a key role in SIN-1-induced release of striatal DA and do not support any role for either peroxynitrite or superoxide anion in SIN-1-induced release of striatal DA.

TI A study on the role of nitric oxide and **iron** in 3-morpholino-sydnonimine-induced increases in dopamine release in the striatum of freely moving rats.

AB 1. We showed previously that interaction between NO and **iron** (II), both released following the decomposition of **sodium** nitroprusside (SNP), accounted for the late SNP-induced dopamine (DA) increase in **dialysates** from the striatum of freely moving rats; in addition, we showed that co-infusion of **iron** (II) with the NO-donor S-nitroso-N-acetylpenicillamine mimicked SNP effects on striatal DA release. 2. In the present study, intrastriatal co-infusion of **iron** (II) (given as FeSO(4), 1 mM for 40 min) with the NO-donor and potential peroxynitrite generator 3-morpholinosydnonimine (SIN-1) (0.2, 0.5, 1.0 or 5.0 mM for 180 min), potentiated the SIN-1-induced increase in DA concentration in **dialysates** from the striatum of freely moving rats. Neither alone nor associated with **iron** (II) did SIN-1 induce changes in **dialysate** ascorbic acid or uric acid concentrations. 3. Neither co-infusion of a superoxide dismutase mimetic nor uric acid affected SIN-1-induced increases in **dialysate** DA concentration. 4. Infusion of the **iron** chelator deferoxamine (0.2 mM for 180 min) decreased **dialysate** DA and attenuated SIN-1-induced increases in **dialysate** DA concentrations. 5. These results suggest that **iron** plays a key role in SIN-1-induced release of striatal DA and do not support any role for either peroxynitrite or. . .

CT . . .

Acetylcysteine: PD, pharmacology
Animals
Ascorbic Acid: ME, metabolism
*Corpus Striatum: DE, drug effects
Corpus Striatum: ME, metabolism
Deferoxamine: PD, pharmacology
Dialysis Solutions: CH, chemistry
Dopamine: ME, metabolism
*Dopamine: SE, secretion
Dose-Response Relationship, Drug
Free Radical Scavengers: PD, pharmacology
Homovanillic Acid: ME, metabolism
***Iron: PD, pharmacology**
Metalloporphyrins: PD, pharmacology
*Molsidomine: AA, analogs & derivatives
*Molsidomine: PD, pharmacology
Movement
*Nitric Oxide: PH, physiology
*Nitric Oxide. . .

RN. . . Acid); 25717-80-0 (Molsidomine); 306-08-1 (Homovanillic Acid); 33876-97-0 (3-morpholino-sydnonimine); 50-81-7 (Ascorbic Acid); 51-61-6 (Dopamine); 616-91-1 (Acetylcysteine); 69-93-2 (Uric Acid); 70-51-9 (Deferoxamine); **7439-89-6 (Iron)**

CN 0 (**Dialysis** Solutions); 0 (Free Radical Scavengers); 0 (Metalloporphyrins); 0 (Nitric Oxide Donors); 0 (manganese(III)-tetrakis(4-benzoic acid)porphyrin)

L6 ANSWER 17 OF 35 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 4
AN 2000:616027 CAPLUS
DN 134:126390
TI **Dialysate** related cytokine induction and response to recombinant human erythropoietin in haemodialysis patients
AU Sitter, Thomas; Bergner, Albrecht; Schiffl, Helmut
CS Department of Nephrology, Ludwig-Maximilians-Universitat, Munich, D-80336, Germany
SO Nephrology, Dialysis, Transplantation (2000), 15(8), 1207-1211
CODEN: NDTREA; ISSN: 0931-0509
PB Oxford University Press
DT Journal
LA English
AB Chronic inflammatory disorders or infections represent a major cause of hyporesponsiveness to recombinant human erythropoietin (rHuEpo). To test the hypothesis that dialyzate-related cytokine induction alters the response to rHuEpo, we conducted a prospective study with matched pairs of chronic **hemodialysis** patients. We compared the effect of two **dialysis** fluids, differing in their microbiol. quality, on the rHuEpo therapy. Thirty male patients with end-stage renal disease maintained on regular **hemodialysis** were assigned either to a group treated with conventional (potentially microbiol. contaminated) dialyzate (group I) or to a group treated with online-produced ultrapure dialyzate (group II). Randomization was stratified according to the maintenance dose of rHuEpo necessary to maintain a target Hb level of 10-10.5 g/dL. Patients were followed for 12 mo. Kt/V was calcd. by the formula of Daugirdas. Hb levels were measured weekly and serum **ferritin** concns. were detd. at 6-wk intervals. C-reactive protein (CRP) and interleukin-6 (IL-6) was measured by an ELISA at the start of the study and after 3, 6 and 12 mo. In group I, continuous use of **bicarbonate** dialyzate did not change the rHuEpo dosage given to achieve the target Hb level and was assocd. with elevated surrogate markers (CRP, IL-6) of cytokine-induced inflammation. The switch from conventional to online-produced ultrapure dialyzate in group II resulted in a lower bacterial contamination with a significant decrease of CRP and IL-6 blood levels. It was accompanied by a significant and sustained redn. of the rHuEpo dosage, which was required to correct the anemia. Using multiple regression anal., IL-6 levels are shown to have a strong predictive value for rHuEpo dosage in both groups. Our data demonstrate that dialyzate-related factors such as low bacterial contamination can induce the activation of monocytes, resulting in elevated serum levels of IL-6. Dialyzate-related cytokine induction might diminish erythropoiesis. The use of pyrogen free ultrapure dialyzate resulted in a better response to rHuEpo. Not only would it save money, but it would also help to maintain an optimal Hb level without further increase in rHuEpo dosage.
RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT
TI **Dialysate** related cytokine induction and response to recombinant human erythropoietin in haemodialysis patients
AB Chronic inflammatory disorders or infections represent a major cause of hyporesponsiveness to recombinant human erythropoietin (rHuEpo). To test the hypothesis that dialyzate-related cytokine induction alters the response to rHuEpo, we conducted a prospective study with matched pairs of chronic **hemodialysis** patients. We compared the effect of two **dialysis** fluids, differing in their microbiol. quality, on the rHuEpo therapy. Thirty male patients with end-stage renal disease maintained on regular **hemodialysis** were assigned either to a group treated with conventional (potentially microbiol. contaminated)

dialyzate (group I) or to a group treated with online-produced ultrapure dialyzate (group II). Randomization was stratified according to the maintenance dose of rHuEpo necessary to maintain a target Hb level of 10-10.5 g/dL. Patients were followed for 12 mo. Kt/V was calcd. by the formula of Daugirdas. Hb levels were measured weekly and serum **ferritin** concns. were detd. at 6-wk intervals. C-reactive protein (CRP) and interleukin-6 (IL-6) was measured by an ELISA at the start of the study and after 3, 6 and 12 mo. In group I, continuous use of **bicarbonate** dialyzate did not change the rHuEpo dosage given to achieve the target Hb level and was assocd. with elevated surrogate markers (CRP, IL-6) of cytokine-induced inflammation. The switch from conventional to online-produced ultrapure dialyzate in group II resulted in a lower bacterial contamination with a significant decrease of CRP and IL-6 blood levels. It was accompanied by a significant and sustained redn. of the rHuEpo dosage, which was required to correct the anemia. Using multiple regression anal., IL-6 levels are shown to have a strong predictive value for rHuEpo dosage in both groups. Our data demonstrate that dialyzate-related factors such as low bacterial contamination can induce the activation of monocytes, resulting in elevated serum levels of IL-6. Dialyzate-related cytokine induction might diminish erythropoiesis. The use of pyrogen free ultrapure dialyzate resulted in a better response to rHuEpo. Not only would it save money, but it would also help to maintain an optimal Hb level without further increase in rHuEpo dosage.

ST **hemodialysis** dialyzate contaminant cytokine erythropoietin Hb

IT Proteins, specific or class
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(C-reactive; dialyzate related cytokine induction and response to recombinant human erythropoietin in **hemodialysis** patients)

IT **Dialysis** fluids
Erythropoiesis
Inflammation
Pyrogens
(dialyzate related cytokine induction and response to recombinant human erythropoietin in **hemodialysis** patients)

IT Cytokines
Hemoglobins
RL: BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(dialyzate related cytokine induction and response to recombinant human erythropoietin in **hemodialysis** patients)

IT Interleukin 6
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(dialyzate related cytokine induction and response to recombinant human erythropoietin in **hemodialysis** patients)

IT **Dialysis**
(**hemodialysis**; dialyzate related cytokine induction and response to recombinant human erythropoietin in **hemodialysis** patients)

IT 11096-26-7, Erythropoietin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(recombinant human; dialyzate related cytokine induction and response to recombinant human erythropoietin in **hemodialysis** patients)

L6 ANSWER 18 OF 35 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:702437 CAPLUS
DN 131:318284
TI Ultrapure **dialysate** reduces dose of recombinant human

erythropoietin
AU Schiffl, Helmut; Lang, S. M.; Bergner, A.
CS Medizinische Klinik, Klinikum Innenstadt, Univ. Munchen, Munich, D-80336, Germany
SO Nephron (1999), 83(3), 278-279
CODEN: NPRNAY; ISSN: 0028-2766
PB S. Karger AG
DT Journal
LA English
AB The effect was compared of potentially contaminated, com. (unfiltered) and online produced, ultrapure dialyzate on recombinant human erythropoietin (rHu-EPO) doses. **Hemodialysis** was performed with volumetrically controlled ultrafiltration (MTS 4008) and biocompatible high-flux dialyzers (Polysulfone, F60) in stable anuric **dialysis** patients with normocytic normo-chromic anemia of end-stage renal disease and normal levels of folic acid, vitamin B12, and **ferritin**. The **bicarbonate** dialyzate was either com. or ultrafiltrated using polysulfone filters. Patients were randomly assigned to treatment with unfiltrated (com.) dialyzate for 3 mo and crossed over to ultrafiltrated dialyzate for another 3 mo (group I) or were treated in the reverse order (group II). Even mildly contaminated com. **bicarbonate dialysis** caused chronic inflammation by induction of cytokine synthesis; use of ultrapure (filtered, pyrogen-free and sterile) dialyzate reduced the rHu-EPO doses required to maintain Hb levels via a redn. in systemic inflammatory processes.
RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT
TI Ultrapure **dialysate** reduces dose of recombinant human erythropoietin
AB The effect was compared of potentially contaminated, com. (unfiltered) and online produced, ultrapure dialyzate on recombinant human erythropoietin (rHu-EPO) doses. **Hemodialysis** was performed with volumetrically controlled ultrafiltration (MTS 4008) and biocompatible high-flux dialyzers (Polysulfone, F60) in stable anuric **dialysis** patients with normocytic normo-chromic anemia of end-stage renal disease and normal levels of folic acid, vitamin B12, and **ferritin**. The **bicarbonate** dialyzate was either com. or ultrafiltrated using polysulfone filters. Patients were randomly assigned to treatment with unfiltrated (com.) dialyzate for 3 mo and crossed over to ultrafiltrated dialyzate for another 3 mo (group I) or were treated in the reverse order (group II). Even mildly contaminated com. **bicarbonate dialysis** caused chronic inflammation by induction of cytokine synthesis; use of ultrapure (filtered, pyrogen-free and sterile) dialyzate reduced the rHu-EPO doses required to maintain Hb levels via a redn. in systemic inflammatory processes.
ST **hemodialysis** microbial contamination dialyzate ultrafiltration; erythropoietin recombinant human dialyzate ultrafiltration **dialysis**
IT **Dialysis**
(**hemodialysis**; ultrapure dialyzate reduces dose of recombinant human erythropoietin)
IT Anemia (disease)
Dialysis fluids
(ultrapure dialyzate reduces dose of recombinant human erythropoietin)

L6 ANSWER 19 OF 35 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 1999:339132 BIOSIS
DN PREV199900339132
TI Protective effect of histidine on **iron** (II)-induced hydroxyl radical generation in rat hearts.
AU Obata, Toshio [Reprint author]; Aomine, Masahiro; Yamanaka, Yasumitsu
CS Department of Pharmacology, Oita Medical University, Hasama-Machi, Oita,

879-5593, Japan

SO Journal of Physiology Paris, (May-June, 1999) Vol. 93, No. 3, pp. 213-218. print.
ISSN: 0928-4257.

DT Article

LA English

ED Entered STN: 24 Aug 1999
Last Updated on STN: 24 Aug 1999

AB We investigated the efficacy of histidine on **iron** (II)-induced hydroxyl radical (cntdotOH) generation in extracellular fluid of the rat myocardium using a flexibly mounted microdialysis technique (O system). Rats were anesthetized and a microdialysis probe was implanted in the left ventricular, followed by infusion of **sodium** salicylate in Ringer's solution (0.5 nmol/muL/min) to detect the generation cntdotOH as reflected by the non-enzymatic formation of 2,3-dihydroxybenzoic acid (DHBA). **Iron** (II) clearly produced a concentration-dependent increase in cntdotOH formation. A positive linear correlation between **iron** (II) and the formation of 2,3-DHBA (R2 = 0.987) was observed. However, histidine (25 mM) was infused through a microdialysis probe; **iron** (II) failed to increase the 2,3-DHBA formation obtained. To examine the effect of histidine on ischemia-reperfusion of the myocardium, the heart was subjected to myocardial ischemia for 15 min by occlusion of the left anterior descending coronary artery (LAD). When the heart was reperfused, a marked elevation of the levels of 2,3-DHBA was observed in the heart **dialysate**. When corresponding experiments were performed with histidine (25 mM)-pretreated animals, histidine prevented the ischemia-reperfusion induced cntdotOH generation trapped as 2,3-DHBA. These results indicate that histidine protects the myocardium against ischemia-reperfusion damage by cntdotOH generation.

TI Protective effect of histidine on **iron** (II)-induced hydroxyl radical generation in rat hearts.

AB We investigated the efficacy of histidine on **iron** (II)-induced hydroxyl radical (cntdotOH) generation in extracellular fluid of the rat myocardium using a flexibly mounted microdialysis technique (O system). Rats were anesthetized and a microdialysis probe was implanted in the left ventricular, followed by infusion of **sodium** salicylate in Ringer's solution (0.5 nmol/muL/min) to detect the generation cntdotOH as reflected by the non-enzymatic formation of 2,3-dihydroxybenzoic acid (DHBA). **Iron** (II) clearly produced a concentration-dependent increase in cntdotOH formation. A positive linear correlation between **iron** (II) and the formation of 2,3-DHBA (R2 = 0.987) was observed. However, histidine (25 mM) was infused through a microdialysis probe; **iron** (II) failed to increase the 2,3-DHBA formation obtained. To examine the effect of histidine on ischemia-reperfusion of the myocardium, the. . . artery (LAD). When the heart was reperfused, a marked elevation of the levels of 2,3-DHBA was observed in the heart **dialysate**. When corresponding experiments were performed with histidine (25 mM)-pretreated animals, histidine prevented the ischemia-reperfusion induced cntdotOH generation trapped as 2,3-DHBA.. . .

IT . . .
system

IT Diseases
myocardial ischemia: heart disease, vascular disease
Myocardial Ischemia (MeSH)

IT Chemicals & Biochemicals
histidine: chelating agent, anti-oxidant, efficacy; **iron**

IT Methods & Equipment
microdialysis: analytical method, **dialysis** techniques

IT Miscellaneous Descriptors
hydroxyl radical generation

RN 71-00-1Q (histidine)

4998-57-6Q (histidine)
15438-31-0 (**IRON** (II))

L6 ANSWER 20 OF 35 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
AN 1998-207000 [18] WPIDS
DNC C1998-065217
TI Delivering **iron** to blood comprises **dialysis** - using **dialysate** compositions comprising complex of divalent or trivalent **iron** ions and low molecular weight anions e.g. **ferrous** gluconate.
DC B05
IN ASH, S R
PA (HEMO-N) HEMOCLEANSE INC; (MAKO-N) MAKOFF R & D LAB INC
CYC 78
PI WO 9806482 A1 19980219 (199818)* EN 39
RW: AT BE CH DE DK EA ES FI FR GB GH GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW
AU 9739787 A 19980306 (199830)
US 5906978 A 19990525 (199928)
EP 944429 A1 19990929 (199945) EN
R: DE ES FR GB IT NL PT
ADT WO 9806482 A1 WO 1997-US14232 19970813; AU 9739787 A AU 1997-39787 19970813; US 5906978 A Provisional US 1996-23926P 19960814, US 1997-869331 19970605; EP 944429 A1 EP 1997-937224 19970813, WO 1997-US14232 19970813
FDT AU 9739787 A Based on WO 9806482; EP 944429 A1 Based on WO 9806482
PRAI US 1997-869331 19970605; US 1996-23926P 19960814
AB WO 9806482 A UPAB: 20040621
Delivering (A) **iron** to blood comprises dialysing with a **dialysate** (I) comprising a dissolved complex (molecular weight (MW) < 50000) of 1 or more divalent or trivalent **iron** ions and 1 or more anions. Also claimed are, e.g.: (B) delivering **iron** without introducing free **iron** by dialysing with a **dialysate** comprising a complex (MW < 50000) of 1 or more multi-polar, divalent or trivalent **iron** ions and 1 or more ions; (C) delivering **iron** to blood comprising passing blood against a first side of a membrane and passing against a second an aqueous solution containing dissolved **iron** complex (MW < 12000), comprising 1 or more ions and 1 or more anions and delivering complex to the blood; (D) delivering **iron** comprising introducing (I) into peritoneal cavity; and (E) increasing **iron** level in bloodstream comprising dialysing with **dialysate** comprising low MW **iron** complex, **sodium**, magnesium, calcium, **potassium**, chloride, acetate and **bicarbonate**.
USE - The compositions are used to treat chronic anaemia and end stage renal disease.
ADVANTAGE - The level of **iron** in blood is increased without introducing free **iron** into the blood. For haemodialysis the **iron** complex must be 'clean' but need not be sterile, as required for **iron** delivery by injection.
Dwg.0/3
TI Delivering **iron** to blood comprises **dialysis** - using **dialysate** compositions comprising complex of divalent or trivalent **iron** ions and low molecular weight anions e.g. **ferrous** gluconate.
AB WO 9806482 UPAB: 20040621
Delivering (A) **iron** to blood comprises dialysing with a **dialysate** (I) comprising a dissolved complex (molecular weight (MW) < 50000) of 1 or more divalent or trivalent **iron** ions and 1

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USE - The compositions are used to treat chronic anaemia and end stage renal disease.

ADVANTAGE - The level of **iron** in blood is increased without introducing free **iron** into the blood. For haemodialysis the **iron** complex must be 'clean' but need not be sterile, as required for **iron** delivery by injection.

Dwg.0/3

TT TT: DELIVER **IRON** BLOOD COMPRISE DIALYSE DIALYSE COMPOSITION COMPRISE COMPLEX DIVALENT TRIVALENT **IRON** ION LOW MOLECULAR WEIGHT ANION **FERROUS** GLUCONATE.

L6 ANSWER 21 OF 35 PROMT COPYRIGHT 2004 Gale Group on STN

AN 92:364183 PROMT

TI **Dialysate** delivery system reassessment urged in FDA safety alert.

SO MDDI Reports Gray Sheet, (22 Jun 1992) pp. N/A.
ISSN: 0163-2426.

LA English

WC 480

FULL TEXT IS AVAILABLE IN THE ALL FORMAT

AB **DIALYSATE** DELIVERY SYSTEM REASSESSMENT RECOMMENDED BY FDA in a recent safety alert sent to 2,400 **hemodialysis** facilities and several professional organizations, including the American Society of Nephrology. In order to eliminate a potential risk of patient exposure to **dialysate** with excessive aluminum levels, FDA is recommending that ''each **dialysis** facility reassess its entire **dialysate** delivery system, including concentrate delivery transfer and storage devices.'' The agency says that ''the compatibility of the various components used for the preparation and delivery of a safe **dialysate** should be determined.''

In addition to recommending an assessment of **dialysate** delivery systems, FDA also suggests that, as a precaution, **dialysis** facilities should ''routinely monitor all **dialysis** patients' blood chemistries for serum aluminum levels.'' When elevated levels of aluminum (or other trace elements such as **iron** or copper) are detected, the safety alert urges **hemodialysis** personnel to begin ''appropriate corrective actions such as avoiding the use of aluminum-based phosphate binders, and beginning chelation therapy.''

The problem appears to be related to the increased use of **bicarbonate dialysate**. The agency says that ''according to a recent CDC survey, more than 72% of reported **dialysis** facilities are now using **bicarbonate**-based **dialysate** .'' However, many facilities ''have adapted their existing physical plants from acetate to **bicarbonate** without full consideration of the effect of lower pH on the **dialysate** concentrate delivery system.'' FDA explains that the corrosive effects of low pH (less than 5.5) solutions, ''such as the acidified portion of **bicarbonate dialysate**,'' increases the amount of leaching of metals used in

dialysate delivery system components.

THIS IS AN EXCERPT: Copyright 1992 F-D-C Reports, Inc.

TI **Dialysate** delivery system reassessment urged in FDA safety alert.

DIALYSATE DELIVERY SYSTEM REASSESSMENT RECOMMENDED BY FDA in a recent safety alert sent to 2,400 **hemodialysis** facilities and several professional organizations, including the American Society of Nephrology. In order to eliminate a potential risk of patient exposure to **dialysate** with excessive aluminum levels, FDA is recommending that ''each **dialysis** facility reassess its entire **dialysate** delivery system, including concentrate delivery transfer and storage devices.'' The agency says that ''the compatibility of the various components used for the preparation and delivery of a safe **dialysate** should be determined.''

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The problem appears to be related to the increased use of **bicarbonate dialysate**. The agency says that ''according to a recent CDC survey, more than 72% of reported **dialysis** facilities are now using **bicarbonate**-based **dialysate** .'' However, many facilities ''have adapted their existing physical plants from acetate to **bicarbonate** without full consideration of the effect of lower pH on the **dialysate** concentrate delivery system.'' FDA explains that the corrosive effects of low pH (less than 5.5) solutions, ''such as the acidified portion of **bicarbonate dialysate**,'' increases the amount of leaching of metals used in **dialysate** delivery system components.

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TX **DIALYSATE** DELIVERY SYSTEM REASSESSMENT RECOMMENDED BY FDA in a recent safety alert sent to 2,400 **hemodialysis** facilities and several professional organizations, including the American Society of Nephrology. In order to eliminate a potential risk of patient exposure to **dialysate** with excessive aluminum levels, FDA is recommending that ''each **dialysis** facility reassess its entire **dialysate** delivery system, including concentrate delivery transfer and storage devices.'' The agency says that ''the compatibility of the various components used for the preparation and delivery of a safe **dialysate** should be determined.''

The agency suggests reevaluating the design of and the components used in the **dialysate** delivery system ''whenever changing or updating any component of an existing **dialysis** unit.'' The reassessment should include determining the compatibility of all components ''within the fluid pathway used to transport water and **dialysate** concentrate or prepared **dialysate** to the patients' dialyzer.''

In addition to recommending an assessment of **dialysate** delivery systems, FDA also suggests that, as a precaution, **dialysis** facilities should ''routinely monitor all **dialysis** patients' blood chemistries for serum aluminum levels.'' When elevated levels of aluminum (or other trace elements such as **iron** or copper) are detected, the safety alert urges **hemodialysis** personnel to begin ''appropriate corrective actions such as avoiding the use of aluminum-based phosphate binders, and beginning chelation therapy.''

The . . . received reports of patient exposure to excessive aluminum levels due to leaching of aluminum ''over time from components of the **dialysate** delivery system.''

In a recent incident at a ''large suburban **dialysis** facility,''

for example, ''a large number of patients were found to have elevated serum aluminum levels,'' and three patient deaths. . . the safety alert reports. Preliminary findings of FDA and Centers for Disease Control investigations indicated that ''the acidified portion of **bicarbonate**-based **dialysate** solution was stored and/or metered to the **dialysis** patients' proportioning **hemodialysis** system through an aluminum-containing pump. Aluminum from the pump had leached unexpectedly into the **dialysate** concentrate during transfer to the patient,'' FDA explains. The problem appears to be related to the increased use of **bicarbonate dialysate**. The agency says that ''according to a recent CDC survey, more than 72% of reported **dialysis** facilities are now using **bicarbonate**-based **dialysate** .'' However, many facilities ''have adapted their existing physical plants from acetate to **bicarbonate** without full consideration of the effect of lower pH on the **dialysate** concentrate delivery system.'' FDA explains that the corrosive effects of low pH (less than 5.5) solutions, ''such as the acidified portion of **bicarbonate dialysate**,'' increases the amount of leaching of metals used in **dialysate** delivery system components. The agency notes that elevations in the serum aluminum levels of **dialysis** patients have ''typically been attributed to improper water treatment, use of phosphate binders, and the **dialysis** equipment.'' Aluminum deposits in patients' bodies have caused anemia, bone manifestations, and ''transient or permanent neurological symptoms including encephalopathy (i.e., **dialysis** dementia) and death,'' according to FDA.

CT *PC3841531 Hospital **Dialysis** Equip; PC2834760 Hospital Solutions ex Biologicals

L6 ANSWER 22 OF 35 JICST-EPlus COPYRIGHT 2004 JST on STN

AN 920762417 JICST-EPlus

TI Trace elements in renal diseases.

AU AKIBA TAKASHI; RI SEIHEI; RYU KEN; MUROGA KAZUHIRO; MIYAKAWA YAHEI; SATO CHIFUMI; MARUMO FUMIAKI
ISHIDA SATOSHI

CS Tokyo Medical and Dental Univ.
Esuvemuvaivburisutoru

SO Biomed Res Trace Elem, (1992) vol. 3, no. 2, pp. 87-88. Journal Code: L1046A
ISSN: 0916-717X

CY Japan

DT Journal; Short Communication

LA Japanese

STA New

AB Kidney is one of main routes for excretion of trace elements. Derangements of renal function frequently causes accumulation of trace elements, especially aluminum, **iron** and Si. We overviewed the changes of homeostasis of trace elements in renal disease. **Hemodialysis** patients exposed with **dialysate** highly contaminated with aluminum showed speech disturbance, tremor, disorientation and unconsciousness. Aluminum brain disease was recently prevented by water-treatment, decreased dose of aluminum-containing phosphate binder and use of deferoxamine. Recent clinical application of recombinant human erythropoietin for renal anemia decreased frequencies in blood transfusion. Intoxication of trace elements might disturb kidney function. Chronic cadmium injection of cadmium chloride disturbed cortical structure as reported by Takebayashi. After six months of injection, brush-border Na/H aniporter activity in proximal tubules decreased. This change might explain the decreased proximal tubular reabsorption of **sodium** and **bicarbonate**. Further studies of cadmium toxicity might

reveal the pathogenesis of Itai-itai disease. (author abst.)

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CT human(primates); chronic kidney failure; **hemodialysis**; trace element; bioaccumulation; aluminum; **iron**; silicon; cadmium; stomach disease; liver cirrhosis; blood protein disorder

BT renal insufficiency; kidney disease; urologic disease; disease; extracorporeal circulation; circulation; therapy; **dialysis**; membrane separation; separation; minor component; component; storage and accumulation; metallic element; element; 3B group element; third row element; fourth row element; **iron** group element; transition metal; carbon group element; 2B group element; gastrointestinal disease; digestive system disease; hepatic fibrosis; liver disease; fibrous. . .

L6 ANSWER 23 OF 35 MEDLINE on STN DUPLICATE 5

AN 91100036 MEDLINE

DN PubMed ID: 1987078

TI Characterization of cell envelope proteins of Staphylococcus epidermidis cultured in human peritoneal **dialysate**.

AU Smith D G; Wilcox M H; Williams P; Finch R G; Denyer S P

CS Department of Pharmaceutical Sciences, University of Nottingham, United Kingdom.

SO Infection and immunity, (1991 Feb) 59 (2) 617-24.
Journal code: 0246127. ISSN: 0019-9567.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 199102

ED Entered STN: 19910329
Last Updated on STN: 19970203
Entered Medline: 19910220

AB The cell envelope protein profiles of Staphylococcus epidermidis cultured in used human peritoneal **dialysate** (HPD) differed markedly from those of cells cultured in nutrient broth. Compared with broth-grown cells, many cell wall proteins were repressed in HPD, although three proteins of 42, 48, and 54 kDa predominated and an **iron** -repressible 130-kDa protein was induced. Growth in HPD also resulted in expression of two cell membrane proteins of 32 and 36 kDa which were **iron** repressible. **Sodium** dodecyl sulfate-polyacrylamide gel electrophoresis and immunoblot analysis using monospecific polyclonal antisera raised against the 32- and 36-kDa proteins revealed considerable antigenic and molecular mass homology among 12 S. epidermidis isolates from patients with continuous ambulatory peritoneal **dialysis** -related peritonitis. The 32-kDa antiserum also cross-reacted with a 32-kDa S. aureus cell membrane protein. Immunoblots of S. epidermidis cell walls and membranes were also probed with normal human serum and serum and HPD from continuous ambulatory peritoneal **dialysis** patients. While the cell wall proteins of S. epidermidis appeared to be relatively poorly immunogenic, the 32- and 36-kDa membrane proteins reacted strongly with antibodies present in each of the body fluids evaluated. These results suggest that the highly conserved 32- and 36-kDa

iron-repressible proteins are expressed during growth in vivo and may be involved in **iron** transport, since all 12 S. epidermidis strains examined also produced **iron** chelators.

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CT Check Tags: Human; Support, Non-U.S. Gov't
*Bacterial Proteins: AN, analysis
Bacterial Proteins: IM, immunology
Cell Wall: CH, chemistry
Heat
***Iron: PD, pharmacology**
*Membrane Proteins: AN, analysis
Membrane Proteins: IM, immunology
Mercaptoethanol: PD, pharmacology
Molecular Weight
***Peritoneal Dialysis, Continuous Ambulatory**
*Staphylococcus epidermidis: AN, analysis
Transferrin: ME, metabolism

RN 11096-37-0 (Transferrin); 60-24-2 (Mercaptoethanol); **7439-89-6 (Iron)**

L6 ANSWER 24 OF 35 MEDLINE on STN DUPLICATE 6
AN 91255284 MEDLINE
DN PubMed ID: 2043666
TI **Iron** binding to, and release from, the basolateral membrane of mouse duodenal enterocytes.
AU Snape S; Simpson R J
CS Department Clinical Biochemistry, Kings College School of Medicine and Dentistry, London, U.K.
SO Biochimica et biophysica acta, (1991 May 24) 1074 (1) 159-66.
Journal code: 0217513. ISSN: 0006-3002.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199107
ED Entered STN: 19910802
Last Updated on STN: 19970203
Entered Medline: 19910717

AB The basolateral membrane of mouse duodenal enterocytes can be selectively labelled in vitro with 59Fe by incubating intact enterocytes with 59Fe(III)-nitrilotriacetate at 0-4 degrees C. It has been proposed that this labelling represents binding to a site important in the transfer of intracellular Fe to the portal plasma (Snape, S., Simpson, R.J. and Peters, T.J. (1990) Cell Biochem. Funct. 8, 107-115). Studies presented here show binding to intact enterocytes in vitro was complete within 1 h and was proportional to enterocyte protein concentration. Binding to enterocytes isolated from both normal and chronically hypoxic mice showed a hyperbolic dependence on medium Fe(III) concentration, consistent with a single class of binding sites. Neither apparent binding constant nor maximal binding were increased by hypoxic exposure of mice, suggesting that the increased in vivo labelling of this site in hypoxia is not due to an increase in affinity or capacity of this site for **iron**. Release of **iron** from intact enterocytes, labelled at 0-4 degrees C, was measured at 37 degrees C and 0-4 degrees C. Release of 59Fe was extensive and more rapid at 37 degrees C with highest release to mouse serum. **Iron** released to serum was found to be bound to transferrin. Prior **dialysis** of serum against **buffer** led to complete failure of enterocytes to release **iron**. Reconstituting serum by adding back the **dialysate** restores release to levels seen in fresh serum, suggesting that low molecular weight serum components, notably **bicarbonate**, mediate **iron** transfer from the basolateral membrane to serum transferrin. The properties of the basolateral membrane **iron** binding site described here are consistent with a role in the **iron** transfer process.

TI **Iron** binding to, and release from, the basolateral membrane of mouse duodenal enterocytes.

AB . . . labelling of this site in hypoxia is not due to an increase in affinity or capacity of this site for **iron**. Release of **iron** from intact enterocytes, labelled at 0-4 degrees C, was measured at 37 degrees C and 0-4 degrees C. Release of 59Fe was extensive and more rapid at 37 degrees C with highest release to mouse serum. **Iron** released to serum was found to be bound to transferrin. Prior **dialysis** of serum against **buffer** led to complete failure of enterocytes to release **iron**. Reconstituting serum by adding back the **dialysate** restores release to levels seen in fresh serum, suggesting that low molecular weight serum components, notably **bicarbonate**, mediate **iron** transfer from the basolateral membrane to serum transferrin. The properties of the basolateral membrane **iron** binding site described here are consistent with a role in the **iron** transfer process.

CT . . .

metabolism

Cell Fractionation
Cell Membrane: ME, metabolism
Chelating Agents: ME, metabolism
Duodenum: CY, cytology
*Duodenum: ME, metabolism
Duodenum: UL, ultrastructure
***Iron: ME, metabolism**
Kinetics
Metals: PD, pharmacology
Mice
Molecular Weight
Transferrin: ME, metabolism

RN 11096-37-0 (Transferrin); **7439-89-6 (Iron)**

L6 ANSWER 25 OF 35 DRUGU COPYRIGHT 2004 THOMSON DERWENT on STN
AN 1991-18353 DRUGU B T S
TI Effect of Human Recombinant Erythropoietin on Anaemia and

Dialysis Efficiency in Patients Undergoing Continuous Ambulatory Peritoneal **Dialysis**.

AU Steinhauer H B; Lubrich Birkner I; Dreyling K W; Schollmeyer
LO Freiburg, Germany,West
SO Eur.J.Clin.Invest. (21, No. 2, 47-52, 1991) 2 Fig. 3 Tab. 34 Ref.
CODEN: EJCIB8 ISSN: 0014-2972
AV Medizinische Universitaetsklinik, Abt IV, Nephrologie, Hugstetterstrasse 55, 7800 Freiburg i Br., Germany.
LA English
DT Journal
FA AB; LA; CT
FS Literature
AB Sc. human recombinant erythropoietin (rHuEPO; Cilag) long-term in 9 patients with end stage renal disease (glomerulonephritis, diabetic nephropathy, nephritis) on continuous ambulatory peritoneal **dialysis** (CAPD) corrected renal anemia. Hb and hemocrit (HCT) increased. A fall in **ferritin** prompted increased p.o. **iron** (Fe2+-glycine-sulfate). Peritoneal ultrafiltration (UF) increased without changes in diuresis and body weight. Peritoneal clearance of creatinine, urea, K+ and phosphate improved (unchanged PG). Serum urea, creatinine and Ca2+ were unchanged; phosphate was increased at 6 mth. Slight local pain on injection and an influenza like syndrome was reported. 3 Patients needed increased hypotensives and 4 increased phosphate binding agents. (CaCO3).
TI Effect of Human Recombinant Erythropoietin on Anaemia and **Dialysis** Efficiency in Patients Undergoing Continuous Ambulatory Peritoneal **Dialysis**.
AB. . . erythropoietin (rHuEPO; Cilag) long-term in 9 patients with end stage renal disease (glomerulonephritis, diabetic nephropathy, nephritis) on continuous ambulatory peritoneal **dialysis** (CAPD) corrected renal anemia. Hb and hemocrit (HCT) increased. A fall in **ferritin** prompted increased p.o. **iron** (Fe2+-glycine-sulfate). Peritoneal ultrafiltration (UF) increased without changes in diuresis and body weight. Peritoneal clearance of creatinine, urea, K+ and phosphate. . .
ABEX. . . and then stabilized. Mean rHuEPO was 50-72 U/kg twice/wk. Hb increased by more than 60% in 3 mth, while serum **ferritin** fell continuously; leukocyte, platelet count and transferrin were unchanged. **Ferritin** fell below 20 ug/l and **iron** supplementation was increased to 80 mg elemental **iron** (450 mg Fe2+-glycine-sulfate)/day. MAP, HR and serum K+, urea and creatinine were unchanged over the 12 mth; serum phosphate increased. . . rate increased continuously for 3 mth then remained stable. Diuresis volume was unchanged. Creatinine, urea, K+ and phosphate clearance increased. **Dialysate** PGE2, 6-keto-PGF1-alpha and TXB2 were unchanged. (E8/BC)
CT . . . GLOMERULONEPHRITIS *OC; NEPHROPATHY *OC; DIABETES *OC; CARBOHYDRATE-METAB.DISORDER *OC; PANCREOPATHY *OC; NEPHRITIS *OC; PAIN *AE; INJECTION-SITE *AE; FLU-LIKE-SYMPTOMS *AE; CALCIUM-CARBONATE *RC; **IRON**-COMPLEX *RC; RECOMBINANT *FT; S.C. *FT; **DIALYSIS** *FT; IN-VIVO *FT; CASES *FT; HEMATOCRIT *FT; PERITONEAL *FT; LONG-TERM-THERAPY *FT; HEMOGLOBIN *FT; UREA *FT; **POTASSIUM** *FT; **ELECTROLYTE**-METAB. *FT; BLOOD-SERUM *FT; **FERRITIN** *FT; CONC. *FT; KIDNEY *FT; FUNCTION *FT; CREATININE *FT; ANTIANEMIC *FT; ULTRAFILTRATION *FT; COMPLEX *FT; INJECTION *FT; FILTRATION *FT; ERYTHROCYTE. . .

L6 ANSWER 26 OF 35 DISSABS COPYRIGHT (C) 2004 ProQuest Information and Learning Company; All Rights Reserved on STN
AN 90:33406 DISSABS Order Number: AARDX92118
TI STUDIES ON THE MECHANISM OF INTESTINAL **IRON** ABSORPTION WITH SPECIAL REFERENCE TO ITS INTRACELLULAR TRANSPORT

AU SNAPE, SUSAN DAWN [PH.D.]
CS COUNCIL FOR NATIONAL ACADEMIC AWARDS (UNITED KINGDOM) (0935)
SO Dissertation Abstracts International, (1990) Vol. 52, No. 1B, p. 98. Order No.: AARDX92118. 247 pages.
DT Dissertation
FS DAI
LA English
ED Entered STN: 19921118
Last Updated on STN: 19921118
AB Available from UMI in association with The British Library.

Newly-absorbed **iron** within mouse mucosa was localized to the enterocyte basolateral membranes by analytical subcellular fractionation using sucrose density gradient centrifugation and digitonin, a selective plasma membrane shift reagent. $\sp{59}$Fe labelling of the basolateral membranes was increased in mice with enhanced **iron** absorption induced by exposure to chronic hypoxia.

$\sp{59}$Fe was also localized to the soluble fraction, a significant proportion of which reflected incorporation of newly-absorbed **iron** into **ferritin**. Transferrin was localized by radioimmunoassay to the soluble region of the gradient. A significant amount of this transferrin appears to be due to plasma contamination. Gel filtration analysis of the soluble fraction of intestinal homogenates labelled with $\sp{59}$Fe in vivo, identified $\sp{59}$Fe bound to **ferritin**, transferrin and a low molecular weight **iron** species (approx. 500 dalton). Both ATP and GSH are degraded during homogenization of mouse mucosa. No transferrin-bound $\sp{59}$Fe was observed when the chromatography was performed in the presence of GSH and ATP.

The basolateral membranes could be labelled with $\sp{59}$Fe in vitro by incubating intact enterocytes at 0-4$\sp\circ$C with $\sp{59}$Fe(III)-NTA$\sb2$. In vitro **iron** binding by enterocytes isolated from hypoxic mice was not significantly different from controls. Binding showed a hyperbolic dependence on medium Fe(III)-NTA$\sb2$ concentration.

$\sp{59}$Fe was released from intact enterocytes to serum and various Fe(III) chelators at 37$\sp\circ$C and 0-4$\sp\circ$C. Mouse serum was most effective at releasing $\sp{59}$Fe from the basolateral membranes which was found to be transferrin-bound. Prior **dialysis** of serum against HEPES-**saline buffer** led to complete failure of enterocytes to release **iron**. Reconstituting serum by adding back **dialysate** restored release activity. Low molecular weight serum components, particularly **bicarbonate**, were identified as necessary for mediating **iron** release to serum.

The relationship between in vitro $\sp{59}$Fe uptake and transferrin, **ferritin** and total **iron** content in duodenal biopsy specimens from normal and anaemic human subjects was also investigated. Results suggested that the **ferritin**, transferrin and total **iron** content of duodenal mucosa were unlikely to influence **iron** absorption.

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L6 ANSWER 27 OF 35 JICST-EPlus COPYRIGHT 2004 JST on STN
AN 910948264 JICST-EPlus
TI A case report of severe hypernatremia followed by rhabdomyolysis and acute renal failure.
AU NARITA ICHIEI; SEGA HIROYUKI; SHIMOJO FUMITAKE; ARAKAWA MASAAKI
CS Niigata Univ.
SO Nippon Toseki Ryoho Gakkai Zasshi (Journal of Japanese Society for Dialysis Therapy), (1990) vol. 23, no. 11, pp. 1317-1321. Journal Code: X0954A (Fig. 3, Tbl. 3, Ref. 13)
ISSN: 0911-5889
CY Japan
DT Journal; Article
LA Japanese
STA New
AB We report a case of hypernatremia associated with rhabdomyolysis and acute renal failure. A 58-year-old man, who had suffered from cerebral hemorrhages at the ages of 46 and 48, was admitted to a hospital because of loss of appetite. Severe hypernatremia was noticed at that time. He developed pneumonia, followed by gastrointestinal bleeding and anuria, and was transferred to our hospital on September 17, 1988. Laboratory data at admission showed seru **sodium** 191mEq/l, **potassium** 4.8mEq/l, chloride 142mEq/l, urea nitrogen 270mg/dl, creatinine 6.7mg/dl, uric acid 11.0mg/dl, and CPK 20,490IU/l with an MM fraction of 97%. Plasma osmolality was 461mOsm/kgH2O, and urine osmolality 462mOsm/kgH2O. The seru level of myoglobin was over 3*104ng/ml and it was also positive in urine. Rhabdomyolysis associated with acute renal failure seemed to be caused by severe hypernatremia due to hyperosmotic dehydration in this case. Short-term **hemodialysis** using a high-**sodium** **dialysate** (153mEq/l) and infusion of hypotonic **sodium** chrolide solution were started immediately. On the 4th hospital day, serum **sodium** was normalized to 140mEq/l. Renal function recovered remarkably after 12 **hemodialysis** treatments. (author abst.)
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CT metabolic disease; **sodium**; **hemodialysis**; renal insufficiency; human(primates); myoglobin; muscular disease; blood chemical analysis; serum concentration; case report; dehydration(disease); hypernatremia

BT disease; alkali metal; metallic element; element; third row element; extracorporeal circulation; circulation; therapy; **dialysis**; membrane separation; separation; kidney disease; urologic disease; muscle protein; animal protein; protein; hemoprotein; **iron** protein; metalloprotein; chromoprotein; blood examination; clinical laboratory test; medical examination; inspection; diagnosis; blood concentration; concentration(ratio); degree; reporting; action and behavior; water-**electrolyte** imbalance

L6 ANSWER 28 OF 35 MEDLINE on STN DUPLICATE 7

AN 90330897 MEDLINE

DN PubMed ID: 2376701

TI Premicellar taurocholate avidly binds **ferrous** (Fe++) **iron**: a potential physiologic role for bile salts in **iron** absorption.

AU Sanyal A J; Hirsch J I; Moore E W

CS Department of Medicine, Medical College of Virginia, Virginia Commonwealth University.

NC DK 32130 (NIDDK)
DK 37913 (NIDDK)

SO Journal of laboratory and clinical medicine, (1990 Jul) 116 (1) 76-86. Journal code: 0375375. ISSN: 0022-2143.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Abridged Index Medicus Journals; Priority Journals

EM 199009

ED Entered STN: 19901012
Last Updated on STN: 19970203
Entered Medline: 19900905

AB Two of the major divalent cations in human physiology, Ca++ and Fe++, are poorly soluble at the pH of intestinal contents, and active "uphill" transport mechanisms exist for both ions in proximal small intestine. We have recently demonstrated significant binding of Ca++ to both premicellar and micellar bile salts and have postulated that high-affinity premicellar binding involves interposition of Ca++ between terminal carboxyl (COO-) and 7-OH or 12-OH groups of the steroid ring. The present studies were made to determine whether such binding extends to other divalent cations, and specifically to Fe++, which, like Ca++, has a hydrated diameter of 6 A. Equilibrium **dialysis** studies of **sodium** taurocholate were made at 25 degrees C with solutions containing 0.5 to 150 mmol/L taurocholate and 0.018 to 1.8 mmol/L **iron** 59-labeled FeSO4 at pH 3.0 to 6.3 and a total ionic strength of 0.15 mol/L. In control (**saline** dialysand) cells, [Fe++] was virtually equal in dialysands and **dialysates** within 5 hours. In sharp contrast, taurocholate-containing dialysands showed significantly higher counts than **dialysates**, indicating Fe++ binding to taurocholate, independent of pH and Fe concentration. After correction for taurocholate-induced Gibbs-Donnan effects across the membrane, the apparent taurocholate affinity constant (K'f) for Fe++ in micellar solutions (5 to 150 mmol/L) was essentially constant at about 3.1 (mol/L)-1, then increased dramatically below the critical micellar concentration to greater than 100

(mol/L)-1 at [taurocholate] = 0.5 mmol/L. The hyperbolic rise in K'f below the critical micellar concentration is similar to that which we have previously reported for Ca++, indicating significant high-affinity binding of Fe++ to premicellar taurocholate anions and low-affinity binding to micellar anions. It is postulated that Fe++ binding, particularly by premicellar bile salts, may play an important physiologic role in increasing **iron** solubility within the intestinal lumen, thus increasing **iron** absorption. The possible role of bile salts in increasing divalent cation solubility and absorption from the intestine is a new field of bile acid research.

TI Premicellar taurocholate avidly binds **ferrous** (Fe++) **iron**: a potential physiologic role for bile salts in **iron** absorption.

AB . . . extends to other divalent cations, and specifically to Fe++, which, like Ca++, has a hydrated diameter of 6 A. Equilibrium **dialysis** studies of **sodium** taurocholate were made at 25 degrees C with solutions containing 0.5 to 150 mmol/L taurocholate and 0.018 to 1.8 mmol/L **iron** 59-labeled FeSO4 at pH 3.0 to 6.3 and a total ionic strength of 0.15 mol/L. In control (**saline** dialysand) cells, [Fe++] was virtually equal in dialysands and **dialysates** within 5 hours. In sharp contrast, taurocholate-containing dialysands showed significantly higher counts than **dialysates**, indicating Fe++ binding to taurocholate, independent of pH and Fe concentration. After correction for taurocholate-induced Gibbs-Donnan effects across the membrane,. . . anions. It is postulated that Fe++ binding, particularly by premicellar bile salts, may play an important physiologic role in increasing **iron** solubility within the intestinal lumen, thus increasing **iron** absorption. The possible role of bile salts in increasing divalent cation solubility and absorption from the intestine is a new. . .

CT Check Tags: Human; Support, U.S. Gov't, P.H.S.
*Bile Acids and Salts: ME, metabolism
Bile Acids and Salts: PH, physiology
Dialysis
***Ferrous Compounds: ME, metabolism**
*Intestinal Absorption: PH, physiology
Kinetics
*Taurocholic Acid: ME, metabolism

CN 0 (Bile Acids and Salts); 0 (**Ferrous** Compounds)

L6 ANSWER 29 OF 35 JICST-EPlus COPYRIGHT 2004 JST on STN
AN 900259562 JICST-EPlus
TI Studies on **bicarbonate dialysate**(AKLK-62).
AU TSURUTA HIROSHI
MAKITA HIROYUKI; MATSUMOTO TOSHIHIRO; SARUWATARI KAZUHISA
FUJIMI SEI
CS Miyazaki Prefect. Miyazaki Hospital
FUKUOKAICHOSHINZOKURINIKKU
Fukuoka Red Cross Hospital
SO Jin to Toseki (Kidney and Dialysis)., (1989) vol. 27, no. 1, pp. 129-135.
Journal Code: Z0503B (Fig. 5, Tbl. 7, Ref. 11)
ISSN: 0385-2156
CY Japan
DT Journal; Article
LA Japanese
STA New
TI Studies on **bicarbonate dialysate**(AKLK-62).
CT human(primates); **hemodialysis**; renal insufficiency; last stage; serum concentration; **electrolyte**; blood gas; blood glucose; hemoglobin; comparison; symptom; **dialysis** fluid
BT extracorporeal circulation; circulation; therapy; **dialysis**; membrane separation; separation; kidney disease; urologic disease;

disease; stage(period); blood concentration; concentration(ratio); degree; matter; blood component; component; blood pigment; blood protein; animal protein; protein; biopigment; coloring matter; hemoprotein; **iron** protein; metalloprotein; chromoprotein; artificial perfusate; drug

L6 ANSWER 30 OF 35 JICST-EPlus COPYRIGHT 2004 JST on STN
AN 880417463 JICST-EPlus
TI Anemia in patients on **dialysis**. Before treatment of recombinant erythropoietin.
AU YURI TAKEHISA; SHIMIZU AKIRA; TAMAI YUZURU; MORIMOTO SACHIKO; HORIGUCHI TAKAYASU; SAITO TADASHI; MASUZAKI SHIGEKI; SHIKURA NAOTO; SHINODA AKIRA
CS Kanazawa Medical Univ.
SO Kanazawa Ika Daigaku Zasshi (Journal of Kanazawa Medical University), (1988) vol. 13, no. 1, pp. 99-105. Journal Code: Z0020B (Fig. 10, Tbl. 2, Ref. 16)
ISSN: 0385-5759
CY Japan
DT Journal; Article
LA Japanese
STA New
AB Human recombinant erythropoietin has recently been made available for clinical trial, and the studies have shown that it could fully correct anemia in patients receiving **hemodialysis**. Therefore, in the near future the anemia in **dialysis** patients will be improved greatly, and various factors currently affecting the anemia of **dialysis** patients may be changed. We studied forty-six patients on **dialysis**, either regular **hemodialysis** treatment(RDT) or continuous ambulatory peritoneal **dialysis**(CAPD) in Kanazawa Medical University for more than one year. **Hemodialysis** was carried out 3 times a week, 4-6 hours each time, using hollow-fiber dialyzer with **bicarbonate dialysate**. There were 4 CAPD exchanges done daily, using 2 liters of DianilOE solution per exchange. The etiologies of chronic renal failure were chronic glomerulonephritis, 31 patients; chronic pyelonephritis, 6; diabetic nephropathy, 5; nephrosclerosis, 1; focal glomeruloarsclerosis, 1; systemic lupus erythematosus, 1; and renal tuberculosis, 1, respectively. Mepitiostane had been given in 7 RDT and 6 CAPD, folic acid in 3 RDT and 1 CAPD, Vitamin B6 and B12 in 6 RDT and 6 CAPD, **iron** salts in 4 RDT and 4 CAPD, aluminum hydroxide gel in 7 RDT and 4 CAPD patients. Nobody had ever received recombinant erythropoietin. Forty-five of 46 patients on **dialysis** were anemic. Twenty-eight patients had been receiving **hemodialysis** for periods ranging from 15 to 183 months. In 14 males, the mean hematocrit was 23.1.+-.2.9% and in 14 females, 23.9.+-.2.5%. Eighteen patients had been on CAPD from 14 to 56 months. In 15 males, the mean hematocrit was 28.8.+-.7.5% and in 3 females, 26.0.+-.2.3%. The mean hematocrit of male patients on CAPD was significantly ($p<0.05$) higher than that of patients receiving RDT. In either **dialysis** group, hematorit levels were not significantly related to the terms of **dialysis** treatment. In males on RDT and patients on CAPD, individual hematocrit levels were also not related to the terms of **dialysis**, but in some
TI Anemia in patients on **dialysis**. Before treatment of recombinant erythropoietin.
AB . . . been made available for clinical trial, and the studies have shown that it could fully correct anemia in patients receiving **hemodialysis**. Therefore, in the near future the anemia in **dialysis** patients will be improved greatly, and various factors currently affecting the anemia of **dialysis** patients may be changed. We studied forty-six patients on **dialysis**, either regular **hemodialysis** treatment(RDT) or continuous ambulatory peritoneal **dialysis**(CAPD) in Kanazawa Medical University for more than one year. **Hemodialysis** was carried out 3 times a week,

4-6 hours each time, using hollow-fiber dialyzer with **bicarbonate dialysate**. There were 4 CAPD exchanges done daily, using 2 liters of DianilOE solution per exchange. The etiologies of chronic renal. . . 6 CAPD, folic acid in 3 RDT and 1 CAPD, Vitamin B6 and B12 in 6 RDT and 6 CAPD, **iron** salts in 4 RDT and 4 CAPD, aluminum hydroxide gel in 7 RDT and 4 CAPD patients. Nobody had ever received recombinant erythropoietin. Forty-five of 46 patients on **dialysis** were anemic. Twenty-eight patients had been receiving **hemodialysis** for periods ranging from 15 to 183 months. In 14 males, the mean hematocrit was 23.1.+-.2.9% and in 14 females,. . . The mean hematocrit of male patients on CAPD was significantly ($p<0.05$) higher than that of patients receiving RDT. In either **dialysis** group, hematorit levels were not significantly related to the terms of **dialysis** treatment. In males on RDT and patients on CAPD, individual hematocrit levels were also not related to the terms of **dialysis**, but in some

CT anemia; **hemodialysis**; CAPD; hematocrit; erythropoietin; human(primates); clinical trial; sexual specificity; time course; time dependence

BT hematologic disease; disease; extracorporeal circulation; circulation; therapy; **dialysis**; membrane separation; separation; peritoneal **dialysis**; hematologic test; blood examination; clinical laboratory test; medical examination; inspection; diagnosis; ratio; cytokine; bioactive factor; factor; test; biological comparison; comparison;. . .

L6 ANSWER 31 OF 35 MEDLINE on STN

AN 86236897 MEDLINE

DN PubMed ID: 3835745

TI Serum copper concentration changes in chronic hemodialyzed patients.

AU Hosokawa S; Nishitani H; Tomita K; Tomoyoshi T; Nishio T; Sawanishi K; Yoshida O

SO Uremia investigation, (1985-86) 9 (1) 63-7.
Journal code: 8411625. ISSN: 0740-1353.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 198606

ED Entered STN: 19900321
Last Updated on STN: 19970203
Entered Medline: 19860630

AB We studied the behavior of copper during **hemodialysis** and the relationship between serum copper levels and hematologic parameters such as red blood cell count (RBC), hematocrit (Hct), hemoglobin (Hb), and serum **iron** in 48 hemodialyzed patients. To study diffusion, we measured copper in the arterial blood and in the **dialysate** at the inflow and outflow sites of the dialyzer. To study hemoconcentration, the change in hematocrit values and total serum protein values were examined. To study liberation of copper from the dialyzer membrane, copper concentrations in normal **saline** were measured before and after the **saline** was used to wash dialyzers of various kinds. We found that changes in serum copper concentration were due mainly to hemoconcentration and liberation, but partly also to diffusion, and that the net result of changes was a significant increase in serum copper. We observed no correlation between serum copper levels and RBC, Hct, Hb, and serum **iron** levels.

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CT Check Tags: Female; Human; Male
Adult
*Copper: BL, blood
Hematocrit
Middle Aged
***Renal Dialysis**
Time Factors

L6 ANSWER 32 OF 35 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 1987:192664 BIOSIS
DN PREV198783100788; BA83:100788
TI POLAROGRAPHIC DETERMINATION OF DESFERRIOXAMINE B IN **DIALYSIS** SAMPLES.
AU ROMERO R A [Reprint author]; DAY J P
CS DEP QUIMICA, FAC EXPERIMENTAL DE CIENCIAS, UNIV ZULIA, MARACAIBO-ZULIA, VENEZUELA
SO Trace Elements in Medicine, (1985) Vol. 2, No. 1, pp. 1-6.
CODEN: TEMDE6. ISSN: 0174-7371.
DT Article
FS BA
LA ENGLISH
ED Entered STN: 20 Apr 1987
Last Updated on STN: 20 Apr 1987
AB Desferrioxamine B (DFO), originally used for the treatment of irons overdoses, is currently employed in the treatment of **dialysis** encephalopathy. However, there has been a lack of an analytical method for the direct determination of DFO in clinical samples in order to evaluate the bioavailability and the pharmacokinetic profile of the drug in both, its earlier stages of administration and later on in the elimination periods (fall-off) in which the drug concentrations are correlated with clinical responses. The strong **iron** (III)-DFO complex (**ferrioxamine**) was studied in diluted aqueous solution by differential pulse polarography at a static mercury drop electrode. The 1:1 complex showed a pH-dependent peak potential (pH=8.3) at -0.66 v vs. Ag/AgCl electrode. This was used as the basis for an analytical method for the determination of DFO in solution and applied to the analysis of **dialysate** samples from renal patients of chronic **hemodialysis** undergoing chelation therapy for the removal of aluminum with DFO. A patient at Manchester Royal Infirmary (MRI) was under **dialysis** treatment for six hours thrice weekly. Once weekly, he received 4 grams of DFO (desferal) in 500 ml of **saline** solution infused into the input (arterial) line of the dialyser. Polarographic analyses of DFO in **dialysate** samples from the outlet line of the dialyzer were carried out over a two-month period. Undiluted samples were titrated polarographically with 0.0010 M **iron** (III) solution. The titration was performed by the succesive addition of Fe (III) aliquots (ca. 50 .mu.l). If any DFO was present in the sample, the Fe (III)-DFO complex peak appeared and increased in height after each Fe (III) addition. At the equivalence point no further increase should be observed. The amount of DFO was then calculated directly from the volume of Fe (III) required to reach the equivalent point. The results indicated that a high percentage (25%) of DFO was lost (dialysed out) as soon as it was infused into the arterial line. This led to the modification of the medical procedure in the drug administration:

the drug infusion must be carried out in the venous line to avoid instantaneous losses.

TI POLAROGRAPHIC DETERMINATION OF DESFERRIOXAMINE B IN **DIALYSIS** SAMPLES.

AB Desferrioxamine B (DFO), originally used for the treatment of irons overdoses, is currently employed in the treatment of **dialysis** encephalopathy. However, there has been a lack of an analytical method for the direct determination of DFO in clinical samples. . . and later on in the elimination periods (fall-off) in which the drug concentrations are correlated with clinical responses. The strong **iron** (III)-DFO complex (**ferrioxamine**) was studied in diluted aqueous solution by differential pulse polarography at a static mercury drop electrode. The 1:1 complex showed. . . as the basis for an analytical method for the determination of DFO in solution and applied to the analysis of **dialysate** samples from renal patients of chronic **hemodialysis** undergoing chelation therapy for the removal of aluminum with DFO. A patient at Manchester Royal Infirmary (MRI) was under **dialysis** treatment for six hours thrice weekly. Once weekly, he received 4 grams of DFO (desferal) in 500 ml of **saline** solution infused into the input (arterial) line of the dialyser. Polarographic analyses of DFO in **dialysate** samples from the outlet line of the dialyzer were carried out over a two-month period. Undiluted samples were titrated polarographically with 0.0010 M **iron** (III) solution. The titration was performed by the succesive addition of Fe (III) aliquots (ca. 50 .mu.l). If any DFO. . .

IT Miscellaneous Descriptors
HUMAN DESFERAL METABOLIC-DRUG RENAL-ACTING-DRUG **DIALYSIS** ENCEPHALOPATHY PHARMACOKINETICS

L6 ANSWER 33 OF 35 DRUGU COPYRIGHT 2004 THOMSON DERWENT on STN
AN 1984-03398 DRUGU T S
TI Acute Thallium Poisoning: An Evaluation of Different Forms of Treatment.
AU Nogue S; Mas A; Pares A; Nadal P; Bertran A; Milla J
LO Barcelona, Spain
SO Clin.Toxicol. (19, No. 10, 1015-21, 1982-1983) 3 Fig. 11 Ref.
CODEN: CTOXAO ISSN: 0009-9309
AV Unidad de Cuidados Intensivos, Servicio de Urgencias, Hospital Clinic i Provincial, C/Casanova 143, Barcelona 36, Spain. (10 authors).
LA English
DT Journal
FA AB; LA; CT
FS Literature
AB Diethyldithiocarbamate (Dithiocarb) i.v., **hemodialysis** (HD), and forced diuresis with i.v. NaCl and dextrose supplemented by KCl were all effective in increasing the excretion of thallium in a schizophrenic patient with severe acute thallium sulfate (Zelio) intoxication due to a suicide attempt. Prussian blue p.o. and dithizon (Dithiozone) p.o. were ineffective. Dithiocarb p.o. (which caused emesis) was initially without effect.
AB Diethyldithiocarbamate (Dithiocarb) i.v., **hemodialysis** (HD), and forced diuresis with i.v. NaCl and dextrose supplemented by KCl were all effective in increasing the excretion of. . .
ABEX. . . 3 days after ingesting the poison; alopecia became apparent after the 12th day. Thallium concentration in plasma, urine, feces and **dialysate** (after HD) was measured by atomic absorption spectrophotometry. Fecal excretion of thallium was low, and apparently unaffected by Prussian blue. . . Forced diuresis using 5% dextrose (average 7083 ml/day) and 0.9% NaCl (average 3646 ml/day) i.v., supplemented by KCl (average 211 **mEq**/day) for the 1st 24 days, and HD (5 hr/day) were effective in increasing excretion of thallium. Dithiocarb perfusion (1550 mg/day. . .
CT INTOXICATION *TR; WHO-9858 *TR; WHO-2959 *OC; THALLIUM *RC; CASES *FT;

CASE-HISTORY *FT; ATTEMPTED *FT; SUICIDE *FT; **HEMODIALYSIS** *FT; FILTRATION *FT

CT INTOXICATION *TR; WHO-9858 *TR; WHO-2959 *OC; THALLIUM *RC; CASES *FT; CASE-HISTORY *FT; ATTEMPTED *FT; SUICIDE *FT; **HEMODIALYSIS** *FT; FILTRATION *FT

[02] **FERRIC-FERROCYANIDE** *TR; PRUSSIAN-BLUE *TR; FEFERROCY *RN; P.O. *FT; TR *FT

[03] DITHIZON *TR; P.O. *FT; CYTOSTATICS *FT; DITHIZON *RN; TR/FT *04* **SODIUM**-CHLORIDE *TR; FORCED *FT; DIURESIS *FT; I.V. *FT; KIDNEY *FT; NACL *RN; TR *FT

[05] GLUCOSE *TR; FORCED *FT; DIURESIS *FT; I.V. *FT; KIDNEY *FT; GLUCOSE *RN; TR *FT

[06] **POTASSIUM**-CHLORIDE *TR; FORCED *FT; DIURESIS *FT; I.V. *FT; KIDNEY *FT; KCL *RN; TR *FT

[03] DITHIZON *TR; P.O. *FT; CYTOSTATICS *FT; DITHIZON *RN; TR/FT *04* **SODIUM**-CHLORIDE *TR; FORCED *FT; DIURESIS *FT; I.V. *FT; KIDNEY *FT; NACL *RN; TR *FT

[05] GLUCOSE *TR; FORCED *FT; DIURESIS *FT; I.V. *FT; KIDNEY *FT; GLUCOSE *RN; TR *FT

[06] **POTASSIUM**-CHLORIDE *TR; FORCED *FT; DIURESIS *FT; I.V. *FT; KIDNEY *FT; KCL *RN; TR *FT

[06] **POTASSIUM**-CHLORIDE *TR; FORCED *FT; DIURESIS *FT; I.V. *FT; KIDNEY *FT; KCL *RN; TR *FT

L6 ANSWER 34 OF 35 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1966:12711 CAPLUS

DN 64:12711

OREF 64:2357f-h

TI Enzymic deiodination of thyroxine and its derivatives. V. Deiodination of L-thyroxine by rabbit liver mitochondria, mitochondrial extract, or microsomes, in the presence of various cofactors. Mechanism of the reaction of deiodination

AU Mante, Suzette; Cartouzou, Guy; Lissitzky, Serge

CS Fac. Med. Pharm., Marseille, Fr.

SO Bulletin de la Societe de Chimie Biologique (1965), 47(6), 1079-93
CODEN: BSCIA3; ISSN: 0037-9042

DT Journal

LA French

AB cf. CA 60, 12105c. L-Thyroxine (I) deiodination was max. in mitochondrial and microsomal fractions from rat liver which was perfused before homogenization to completely remove blood contamination. Fe++ (7 .times. 10-4M) inhibited mitochondrial activity but stimulated microsomal activity, and 5 .times. 10-5M FMN slightly stimulated both fractions equally. Catalase inhibited the stimulation by Fe++ and increased the response to FMN. After suspending the mitochondria from 1 g. liver in 5 ml. 0.15 KCl at pH 6.4, at 2.degree. for 20 hrs. and removing debris by centrifugation at 15,000 g for 30 min. at 0.degree., filtration of the supernatant on Sephadex G-200 or filtration of the **dialysate** or diffusate after **dialysis** of KCl ext. against 0.005M phosphate **buffer** pH 6.4 for 24 hrs. yielded an active peak in each of the 3 prepns. The activity of the **dialysate** fraction corresponded to that of the diffusate fraction. Uv absorption at 280 m.mu. at pH 7.0, Rf values of <0.1 in BuOH-HOAc-H2O (78:5:17), and the appearance of many ninhydrin pos. spots after chromatography indicated peptides in the **dialysate** material. I deiodination probably results directly from the oxidn. of the phenolic function of the hormone to give an oxidized form capable of combining with proteins or peptides. This combined form increases the degradation velocity with rupture of the diphenyl ether bridge and iodide formation. 19 references.

AB cf. CA 60, 12105c. L-Thyroxine (I) deiodination was max. in mitochondrial and microsomal fractions from rat liver which was perfused before homogenization to completely remove blood contamination. Fe++ (7 .times.

10-4M) inhibited mitochondrial activity but stimulated microsomal activity, and 5 .times. 10-5M FMN slightly stimulated both fractions equally. Catalase inhibited the stimulation by Fe++ and increased the response to FMN. After suspending the mitochondria from 1 g. liver in 5 ml. 0.15 KCl at pH 6.4, at 2.degree. for 20 hrs. and removing debris by centrifugation at 15,000 g for 30 min. at 0.degree., filtration of the supernatant on Sephadex G-200 or filtration of the **dialysate** or diffusate after **dialysis** of KCl ext. against 0.005M phosphate **buffer** pH 6.4 for 24 hrs. yielded an active peak in each of the 3 prepns. The activity of the **dialysate** fraction corresponded to that of the diffusate fraction. Uv absorption at 280 m.mu. at pH 7.0, Rf values of <0.1 in BuOH-HOAc-H2O (78:5:17), and the appearance of many ninhydrin pos. spots after chromatography indicated peptides in the **dialysate** material. I deiodination probably results directly from the oxidn. of the phenolic function of the hormone to give an oxidized form capable of combining with proteins or peptides. This combined form increases the degradation velocity with rupture of the diphenyl ether bridge and iodide formation. 19 references.

IT 7439-89-6, **Iron**
(in thyroxine deiodination by microsomes, catalase and)

L6 ANSWER 35 OF 35 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 1986:276493 BIOSIS
DN PREV198682020356; BA82:20356
TI SERUM COPPER CONCENTRATION CHANGES IN CHRONIC HEMODIALYZED PATIENTS.
AU HOSOKAWA S [Reprint author]; NISHITANI H; TOMITA K; TOMOYOSHI T; NISHIO T; SAWANISHI K; YOSHIDA O
CS HEMODIALYSIS CENTER, UTANO NATL HOSP, 8 ONDOYAMA-CHO, NARUTAKI, UKYO-KU, KYOTO 616, JPN
SO Uremia Investigation, Vol. 9, No. 1, pp. 63-68. 1985-1986.
CODEN: URINDF. ISSN: 0740-1353.
DT Article
FS BA
LA ENGLISH
ED Entered STN: 4 Jul 1986
Last Updated on STN: 4 Jul 1986
AB We studied the behavior of copper during **hemodialysis** and the relationship between serum copper levels and hematologic parameters such as red blood cell count (RBC), hematocrit (Hct), hemoglobin (Hb), and serum **iron** in 48 hemodialyzed patients. To study diffusion, we measured copper in the arterial blood and in the **dialysate** at the inflow and outflow sites of the dialyzer. To study hemoconcentration, the change in hematocrit values and total serum protein values were examined. To study liberation of copper from the dialyzer membrane, copper concentrations in normal **saline** were measured before and after the **saline** was used to wash dialyzers of various kinds. We found that changes in serum copper concentration were due mainly to hemoconcentration and liberation, but partly also to diffusion, and that the net result of changes was a significant increase in serum copper. We observed no correlation between serum copper levels and RBC, Hct, Hb, and serum **iron** levels.
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IT Miscellaneous Descriptors
COPPER INTOXICATION ANEMIA COPPER FEVER RED BLOOD CELL COUNT HEMATOCRIT HEMOGLOBIN SERUM **IRON**

RN 7440-50-8 (COPPER)
7439-89-6 (**IRON**)